

Study Number: C11054B-01
Test Type: TOX
Route: Dosing in Water
Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)
Test Compound: Sulfolane
CAS Number: 126-33-0
Target Version: Study Pathologist

Date Report Requested: 04/14/2022
Time Report Requested: 10:55:59
Lab: Battelle

Study Number:

C11054B-01

Study Sex:

Both

PWG Approval Date:

See web page for date of PWG Approval

Version:

v1.4.1

Study Number: C11054B-01

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Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1001	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD565
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702016

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

LYMPH NODE, MANDIBULAR [DISCOLORATION TGLS = TGL1]		DISCOLORATION	RED
LYMPH NODE, MESENTERIC Observation Comment: 3 X expected size; found at trim [ENLARGED TGLS = TGL3]		ENLARGED	RED
SEMINAL VESICLE [DISCOLORATION TGLS = TGL2]	BILATERAL	DISCOLORATION	RED
STOMACH, FORESTOMACH Observation Comment: 4 X 4 X 1 mm; found at trim [NODULE TGLS = TGL4]		NODULE	

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ANIMAL ID: 1001	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD565
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702016
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, GLANDULAR	TESTIS	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA	BILATERAL	PHEOCHROMOCYTOMA	BENIGN	
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL	
HARDERIAN GLAND		INFLAMMATION	CHRONIC, MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
	PELVIS, BILATERAL	INFLAMMATION	SUPPURATIVE, MILD	
LYMPH NODE, MANDIBULAR		ANGIECTASIS	MODERATE	
[ANGIECTASIS TGLS = TGL 1-12, Gross Finding = LYMPH NODE, MANDIBULAR, DISCOLORATION, RED]				
LYMPH NODE, MESENTERIC		ANGIECTASIS	MODERATE	
[ANGIECTASIS TGLS = TGL 3-9, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, RED]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
PROSTATE		INFLAMMATION	SUPPURATIVE, MODERATE	
SEMINAL VESICLE		INFLAMMATION	SUPPURATIVE, MODERATE	
[INFLAMMATION TGLS = TGL 2-16, Gross Finding = SEMINAL VESICLE, BILATERAL, DISCOLORATION, RED]				
STOMACH, FORESTOMACH		HYPERKERATOSIS	MODERATE	
	SUBMUCOSA	INFLAMMATION	CHRONIC, MILD	
	ARTERIOLE	THROMBUS		
[THROMBUS TGLS = TGL 4-9, Gross Finding = STOMACH, FORESTOMACH, NODULE,]				
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1002	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702017

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

EYE	BILATERAL	DISCOLORATION	OPAQUE
[DISCOLORATION TGLS = TGL3]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1002	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702017
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	EPIDIDYMIS	ESOPHAGUS	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
		PHEOCHROMOCYTOMA	BENIGN	
AORTA		MINERAL	MODERATE	
BRAIN	MENINGES, GRANULAR CELL	AGGREGATE	MINIMAL	
EYE	CORNEA	INFLAMMATION	CHRONIC, MODERATE	
[INFLAMMATION TGLS = TGL 3-13, Gross Finding = EYE, BILATERAL, DISCOLORATION, OPAQUE]				
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	VEIN	THROMBUS		
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red ocular discharge, red nose/snout discharge, thinness, paleness, and ruffled coat confirmed at necropsy, but not corelated to any gross findings.				

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Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1003	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702018

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL6]			
EPIDIDYMIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]			
EPIDIDYMIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]			
KIDNEY, LEFT		DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL7]			
KIDNEY, RIGHT		DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL8]			
LIVER	RIGHT	CYST	CLEAR
Observation Comment: posterior; 4 X 4 X 4 mm [CYST TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	
TESTIS, LEFT		SMALL	

ANIMAL ID: 1003	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702018
Observation Comment: 0.5 X expected size				
[SMALL TGLS = TGL1]				
TESTIS, RIGHT		SMALL		
Observation Comment: 0.5 X expected size				
[SMALL TGLS = TGL2]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1003	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702018

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS
EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 6-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED,]			
AORTA		MINERAL	MILD
EPIDIDYMIS		HYOSPERMIA	MARKED
Tissue Comment: TGL 3-14, TGL 4-14			
[HYOSPERMIA TGLS = TGL3-14, TGL4-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]			
[HYOSPERMIA TGLS = TGL3-14, TGL4-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
HEART		CARDIOMYOPATHY	MILD
		MINERAL	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 7-8, TGL 8-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL8-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DARK]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL8-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DARK]			
LIVER	BILE DUCT	CYST	
		FATTY CHANGE	FOCAL, MILD
[CYST TGLS = TGL 5-17, Gross Finding = LIVER, RIGHT, CYST, CLEAR]			
LUNG	INTERSTITIUM	MINERAL	MINIMAL
SPLEEN	WHITE PULP	ATROPHY	MODERATE
STOMACH, GLANDULAR		MINERAL	MILD
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE
Tissue Comment: TGL 1-14, TGL 2-14			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1003	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702018
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness and ruffled coat were present at necropsy, but did not correlate with any specific gross findings				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1004	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD322
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702019

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
LYMPH NODE, MEDIASTINAL	ENLARGED	DARK
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1004	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD322
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702019
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
AORTA		MINERAL	MODERATE	
EPIDIDYMIS		HYOSPERMIA	MILD	
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MODERATE	
INTESTINE, LARGE, COLON		MINERAL	MILD	
INTESTINE, LARGE, RECTUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MARKED	
LYMPH NODE, MEDIASTINAL		ANGIECTASIS	MODERATE	
[ANGIECTASIS TGLS = TGL 2-17, Gross Finding = LYMPH NODE, MEDIASTINAL, ENLARGED, DARK]				
STOMACH, FORESTOMACH		MINERAL	MILD	
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness and ruffled coat confirmed at necropsy, but not correlated to any specific gross findings.				

ANIMAL ID: 1005	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702020

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1005	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702020

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	TESTIS
THYMUS	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

Animal Note: Thinness and scab of tail were confirmed at necropsy, but did not correspond to any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1006	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD468
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702021

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

ABDOMEN	FLUID	CLEAR
Observation Comment: 4 ml [FLUID TGLS = TGL3]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1006	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD468
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702021
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MILD	
EPIDIDYMIS		HYOSPERMIA	MILD	
EYE	CORNEA	INFLAMMATION	CHRONIC, MARKED	
HEART		CARDIOMYOPATHY	MINIMAL	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
THYROID GLAND	C-CELL	ADENOMA		
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat was noted at necropsy, but not correlated with any gross finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1007	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702022

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

AORTA		DILATION	
Observation Comment: up to 7 mm diameter [DILATION TGLS = TGL7]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, THORACIC	MASS	TAN
Observation Comment: 7 X 6 X 4 mm [MASS TGLS = TGL1]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL5]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL4]			

Study Number: C11054B-01
Test Type: TOX
Route: Dosing in Water
Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)
Test Compound: Sulfolane
CAS Number: 126-33-0
Target Version: Study Pathologist

Date Report Requested: 04/14/2022
Time Report Requested: 10:55:59
Lab: Battelle

ANIMAL ID: 1007	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702022
THORAX		ACCUMULUATION		CLEAR
Observation Comment: 5 ml				
[ACCUMULUATION TGLS = TGL6]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1007 GENERATION: F1	TRT#: F1-1 SELECTION: F1 Core Animals	DOSE: 0 mg/L	SEX: Male DISP: Euthanized Moribund	REMOVAL DAY: SD619 HISTO: 1702022
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MARKED	
[MINERAL TGLS = TGL 7-18, Gross Finding = AORTA, DILATION,]				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MODERATE	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		FATTY CHANGE	FOCAL, MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SKIN	SEBACEOUS GLAND	CYST		
[CYST TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, THORACIC, MASS, TAN]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
Tissue Comment: TGL 4-14, TGL 5-14				
[DEGENERATION TGLS = TGL5-14, TGL4-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL5-14, TGL4-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	ADENOMA		
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Paleness, thinness, and rufflrd coat were noted at necropsy, but did not correlate with any specific gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1008	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702023

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

SKIN	RIGHT, INGUINAL	MASS	TAN
Observation Comment: 22 X 16 X 8 mm; ulcerated [MASS TGLS = TGL1]			
SPLEEN		ENLARGED	RED
Observation Comment: 68 X 13 X 10 mm [ENLARGED TGLS = TGL2]			
THYROID GLAND	LEFT	ENLARGED	DARK
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1008	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702023

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
EPIDIDYMIS		HYOSPERMIA	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
LYMPH NODE, MESENTERIC		HISTIOCYTIC SARCOMA	
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, INGUINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SPLEEN		HISTIOCYTIC SARCOMA	
[HISTIOCYTIC SARCOMA TGLS = TGL 2-8, Gross Finding = SPLEEN, ENLARGED, RED]			
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE
THYROID GLAND	C-CELL	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED, DARK]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1009	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702024

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

ADRENAL GLAND		ENLARGED	
Observation Comment: unilateral; 3 X expected size; found at trim [ENLARGED TGLS = TGL9]			
INTESTINE, LARGE, CECUM		THICK	PALE
Observation Comment: 2 mm [THICK TGLS = TGL8]			
KIDNEY, LEFT		CYST DEFORMITY	CLEAR PALE
Observation Comment: multiple; up to 8 X 8 X 4 mm Observation Comment: granular [CYST TGLS = TGL7] [DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		CYST DEFORMITY	CLEAR PALE
Observation Comment: multiple; up to 8 X 5 X 3 mm Observation Comment: granular [CYST TGLS = TGL6] [DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, DORSAL	MASS	MOTTLED

ANIMAL ID: 1009	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702024
Observation Comment: 18 X 15 X 6 mm				
[MASS TGLS = TGL1]				
TESTIS, LEFT			SMALL	
Observation Comment: 0.5 X expected size				
[SMALL TGLS = TGL3]				
TESTIS, RIGHT			SMALL	
Observation Comment: 0.5 X expected size				
[SMALL TGLS = TGL2]				

ANIMAL ID: 1009	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702024

HISTOPATH TISSUE STATUS

Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	THYMUS	TRACHEA	
URINARY BLADDER				

NOT PRESENT
LYMPH NODE

OBSERVATIONS			
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 9-11, Gross Finding = ADRENAL GLAND, ENLARGED,]			
AORTA		MINERAL	MINIMAL
EPIDIDYMIS		HYOSPERMIA	MARKED
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD
HEART		CARDIOMYOPATHY	MILD
		MINERAL	MILD
INTESTINE, LARGE, CECUM		MINERAL	MILD
[MINERAL TGLS = TGL 8-10, Gross Finding = INTESTINE, LARGE, CECUM, THICK, PALE]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 4-8, TGL 5-8, TGL 6-8, TGL 7-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL4-8, TGL5-8, TGL6-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL4-8, TGL5-8, TGL6-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL4-8, TGL5-8, TGL6-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL4-8, TGL5-8, TGL6-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		FATTY CHANGE	FOCAL, MINIMAL
	BILE DUCT	HYPERPLASIA	MINIMAL
PANCREAS	ACINAR CELL	ADENOMA	
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, DORSAL, MASS, MOTTLED]			
STOMACH, GLANDULAR		MINERAL	MILD

ANIMAL ID: 1009	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702024
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION		MARKED
Tissue Comment: TGL 2-14, TGL 3-14				
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	HYPERPLASIA		MINIMAL
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Red nasal discharge, thinness, and ruffled coat confirmed at necropsy, but not correlated with any specific gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1010	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702025

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL1]			
KIDNEY, LEFT		CYST DEFORMITY	CLEAR PALE
Observation Comment: multiple, up to 6 mm diameter Observation Comment: granular [CYST TGLS = TGL8] [DEFORMITY TGLS = TGL6]			
KIDNEY, RIGHT		CYST DEFORMITY	CLEAR PALE
Observation Comment: multiple, up to 6 mm diameter Observation Comment: granular [CYST TGLS = TGL7] [DEFORMITY TGLS = TGL5]			
LIVER	LOBE, LEFT LOBE, MEDIAN RIGHT	CYST CYST CYST	CLEAR CLEAR CLEAR
Observation Comment: 2 mm diameter			

ANIMAL ID: 1010	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702025
Observation Comment: 4 mm diameter				
Observation Comment: posterior; 5 X 4 X 3 mm				
[CYST TGLS = TGL2]				
[CYST TGLS = TGL3]				
[CYST TGLS = TGL4]				
NO CORRELATE		TO OBSERVATION / MASS		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1010	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702025

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS
HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA PHEOCHROMOCYTOMA	FOCAL, MINIMAL BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED,]			
AORTA		MINERAL	MINIMAL
EPIDIDYMIS		HYOSPERMIA	MILD
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD
HEART		CARDIOMYOPATHY	MILD
INTESTINE, LARGE, CECUM		MINERAL	MODERATE
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 5-8, TGL 6-8, TGL 7-8, TGL 8-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL8-8, TGL6-8, TGL7-8, TGL5-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL8-8, TGL6-8, TGL7-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL8-8, TGL6-8, TGL7-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL8-8, TGL6-8, TGL7-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	CYST	
	BILE DUCT	HYPERPLASIA	MINIMAL
Tissue Comment: TGL 2-12, TGL 3-12, TGL 4-17			
[CYST TGLS = TGL3-12, TGL2-12, TGL4-17, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]			
[CYST TGLS = TGL3-12, TGL2-12, TGL4-17, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR]			
[CYST TGLS = TGL3-12, TGL2-12, TGL4-17, Gross Finding = LIVER, RIGHT, CYST, CLEAR]			
PANCREAS	ACINAR CELL	ADENOMA	

ANIMAL ID: 1010	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702025
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PREPUTIAL GLAND	Tissue Comment: Only one preputial gland was present in slide set			
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
THYROID GLAND	C-CELL	ADENOMA		
	C-CELL	HYPERPLASIA	MILD	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Pallor, thinness, and ruffled coat confirmed at necropsy, but not correlated with any specific gross findings				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1011	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD507
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702026

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

EPIDIDYMIS, RIGHT	SMALL	
Observation Comment: 0. 5 X expected size [SMALL TGLS = TGL2]		
KIDNEY, LEFT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL4]		
KIDNEY, RIGHT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
LUNG	FOCUS	DARK
Observation Comment: multiple; up to 3 X 2 mm; found at trim; affects all lung lobes [FOCUS TGLS = TGL5]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size; inguinal [SMALL TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1011	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD507
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702026
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
THYMUS	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
AORTA		MINERAL	MILD	
EPIDIDYMIS		HYOSPERMIA	MILD	
[HYOSPERMIA TGLS = TGL 2-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]				
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MILD	
Tissue Comment: TGL 5-6, TGL 5-7				
[MINERAL TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, DARK]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, FORESTOMACH		MINERAL	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
[DEGENERATION TGLS = TGL 1-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	ADENOMA		
	C-CELL	HYPERPLASIA	MODERATE	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1011

TRT#: F1-1

DOSE: 0 mg/L

SEX: Male

REMOVAL DAY: SD507

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702026

Animal Note: Pallor, thinness, nasal discharge, and ruffled coat noted at necropsy, but not correlated with any specific gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1012	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702027
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE	
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS	
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION	
URINARY BLADDER	ZYMBALS GLAND			
OBSERVATIONS				
EYE	RIGHT	PROLAPSE	RED	
[PROLAPSE TGLS = TGL1]				
HARDERIAN GLAND	RIGHT	ENLARGED	TAN	
Observation Comment: 3 X expected size				
[ENLARGED TGLS = TGL5]				
KIDNEY, LEFT		DEFORMITY		
Observation Comment: granular				
[DEFORMITY TGLS = TGL4]				
KIDNEY, RIGHT		DEFORMITY		
Observation Comment: granular				
[DEFORMITY TGLS = TGL3]				
LUNG		FOCUS	WHITE	
Observation Comment: multiple; up to 5 X 3 mm; affects all lobes				
[FOCUS TGLS = TGL2]				
SKELETAL MUSCLE	RIGHT, FACE	MASS	WHITE	
Observation Comment: 25 X 15 X 10 mm				
[MASS TGLS = TGL6]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1012	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702027
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
		PHEOCHROMOCYTOMA	BENIGN	
EYE	CORNEA	INFLAMMATION	SUPPURATIVE, MARKED	
[INFLAMMATION TGLS = TGL 1-13, Gross Finding = EYE, RIGHT, PROLAPSE, RED]				
HARDERIAN GLAND		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 5-NCL, Gross Finding = HARDERIAN GLAND, RIGHT, ENLARGED, TAN]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 2-NCL, Gross Finding = LUNG, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
ZYMBALS GLAND		CARCINOMA		
[CARCINOMA TGLS = TGL 6-17, Gross Finding = SKELETAL MUSCLE, RIGHT, FACE, MASS, WHITE]				
CONTRIBUTORY CAUSE OF DEATH	- ZYMBALS GLAND CARCINOMA			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1013	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702028

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LIVER	LOBE, LEFT	CYST	CLEAR, THREE
	LOBE, MEDIAN	CYST	CLEAR
	RIGHT	CYST	CLEAR
Observation Comment: up to 4 X 2 X 2 mm			
Observation Comment: 8 X 5 X 2 mm			
Observation Comment: posterior; 3 X 2 X 1 mm [CYST TGLS = TGL2] [CYST TGLS = TGL1] [CYST TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lobes [FOCUS TGLS = TGL6]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1013	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702028
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, RECTUM	ARTERIOLE	THROMBUS		
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	CYST		
		NO CORRESPONDING LESION		
Tissue Comment: TGL 1-17, TGL 2-18, TGL 3-NCL				
[CYST TGLS = TGL1-17, TGL2-18, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR, THREE]				
[CYST TGLS = TGL1-17, TGL2-18, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR]				
[NO CORRESPONDING LESION TGLS = TGL3-NCL, Gross Finding = LIVER, RIGHT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 6-6, TGL 6-7				
[INFILTRATION CELLULAR TGLS = TGL6-6, Gross Finding = LUNG, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	

ANIMAL ID: 1014	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702029

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

LIVER	LOBE, MEDIAN	DEFORMITY	TAN
Observation Comment: 9 X 5 X 5 mm; consistent with hepatodiaphragmatic nodule			
[DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1014	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702029

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE
ISLETS, PANCREATIC		ADENOMA	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	MULTIPLE
		HEPATODIAPHRAGMATIC NODULE	
	BILE DUCT	HYPERPLASIA	MINIMAL
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL 1-12, Gross Finding = LIVER, LOBE, MEDIAN, DEFORMITY, TAN]			
PANCREAS	ACINUS	ATROPHY	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL

Animal Note: Confirm red ocular discharge at necropsy, but the discharge does not correlate with any specific necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1015	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702030

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, RIGHT		DILATION SMALL	TAN
Observation Comment: 4 X expected size; found at trim			
Observation Comment: 0.75 X expected size			
[DILATION TGLS = TGL3]			
[SMALL TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, THORACIC	MASS	WHITE
Observation Comment: 45 X 45 X 16 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1015	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702030

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
	PELVIS	DILATION	MODERATE
Tissue Comment: TGL 2-18, TGL 3-18			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-18, Gross Finding = KIDNEY, RIGHT, SMALL, TAN]			
[DILATION TGLS = TGL3-18, Gross Finding = KIDNEY, RIGHT, DILATION,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, THORACIC, MASS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL

Animal Note: Confirm ocular discharge (red) at necropsy, but the discharge does not correlate with any specific gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1016	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702031

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1016	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702031

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MODERATE
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

ANIMAL ID: 1017	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702032

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

SKIN	RIGHT, INGUINAL	MASS	TAN
Observation Comment: 40 X 38 X 10 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1017	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702032

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
PANCREAS	ACINUS	ATROPHY	MINIMAL
PARATHYROID GLAND		HYPERPLASIA	FOCAL, MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SKIN		INFLAMMATION	SUPPURATIVE, MARKED
[INFLAMMATION TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, INGUINAL, MASS, TAN]			
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE

ANIMAL ID: 1018	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702033

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS	
PANCREAS	NODULE	DARK
Observation Comment: 6 X 6 X 4 mm; found at trim		
[NODULE TGLS = TGL1]		

ANIMAL ID: 1018	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702033
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ISLETS, PANCREATIC		ADENOMA		
[ADENOMA TGLS = TGL 1-17, Gross Finding = PANCREAS, NODULE, DARK]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
PANCREAS	ACINAR CELL	ADENOMA		
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
SKELETAL MUSCLE		DEGENERATION	CHRONIC, FOCAL, MINIMAL	
THYROID GLAND	C-CELL	ADENOMA		
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Discharges of nose and eye confirmed at necropsy, but not correlated with any specific gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1019	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD626
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702034

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		CYST DEFORMITY	CLEAR PALE
Observation Comment: 4 X 4 X 4 mm; found at trim			
Observation Comment: granular			
[CYST TGLS = TGL5]			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, HINDLIMB	CRUST	BROWN
Observation Comment: 6 X 6 mm			
[CRUST TGLS = TGL4]			
URINARY BLADDER	LUMEN	UROLITH	WHITE
Observation Comment: 5 X 4 X 4 mm			
[UROLITH TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1019	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD626
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702034
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 5-18				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL5-18, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL5-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL5-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	CYST		
	BILE DUCT	HYPERPLASIA	MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MILD	
PANCREAS	ACINUS	HYPERPLASIA	MODERATE	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SKIN		ULCER	MODERATE	
[ULCER TGLS = TGL 4-17, Gross Finding = SKIN, RIGHT, HINDLIMB, CRUST, BROWN]				
URINARY BLADDER		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = URINARY BLADDER, LUMEN, UROLITH, WHITE]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat was noted at necropsy, but did not correlate with any necropsy finding				

ANIMAL ID: 1020	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702035

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND	ENLARGED
Observation Comment: unilateral; 2 X expected size; found at trim	
[ENLARGED TGLS = TGL1]	
NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1020	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702035

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, ENLARGED,]			
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
	RENAL TUBULE, ONCOCYTE	HYPERPLASIA	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
PANCREAS	ACINUS	HYPERPLASIA	MODERATE
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL	ADENOMA	
	C-CELL	HYPERPLASIA	MODERATE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1021	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702036

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
PREPUTIAL GLAND	RIGHT	ENLARGED	GREEN
Observation Comment: 10 X 10 X 5 mm; found at trim [ENLARGED TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1021	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702036

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MODERATE
[INFLAMMATION TGLS = TGL 1-15, Gross Finding = PREPUTIAL GLAND, RIGHT, ENLARGED, GREEN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD

PRIMARY CAUSE OF DEATH	- UNDETERMINED

Animal Note: Confirmed ruffled coat at necropsy, but this finding does not correlate with any specific gross lesion.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1022	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD378
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702037

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

ANIMAL ID: 1022	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD378
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702037
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Nasal and ocular discharge noted at necropsy, but do not correlate with any gross findings.				

ANIMAL ID: 1023	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD560
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702038

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL1]	
KIDNEY, RIGHT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL2]	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1023	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD560
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702038

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MARKED
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1024	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD338
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702039

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]			
SKIN	SCROTUM	CRUST	DARK
Observation Comment: 15 X 15 mm [CRUST TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1024	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD338
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702039

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 2-18, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
MAMMARY GLAND	DUCT	DILATION	MINIMAL
SKIN		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = SKIN, SCROTUM, CRUST, DARK]			

PRIMARY CAUSE OF DEATH	- UNDETERMINED
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1025	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD626
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702040

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
LYMPH NODE, MESENTERIC	ENLARGED	TAN
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	MOTTLED
Observation Comment: 8 X 7 X 4 mm [ENLARGED TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1025	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD626
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702040

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

EPIDIDYMIS		HYOSPERMIA	MARKED
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 3-8, TGL 4-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LYMPH NODE, MESENTERIC		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 2-NCL, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED

CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY
	- PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Ruffled coat and thinness noted at necropsy, but not correlated to any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1026	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702041

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1026	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702041
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	PANCREAS	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
	RENAL TUBULE, ONCOCYTE	HYPERPLASIA	MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		ANGIECTASIS	MINIMAL	
		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
NOSE	RESPIRATORY EPITHELIUM, GLANDS	HYPERPLASIA	MINIMAL	
	RESPIRATORY EPITHELIUM	METAPLASIA	SQUAMOUS, MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1027	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD189
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702042

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

BRAIN		DISCOLORATION	RED
Observation Comment: meninges overlying cerebellum [DISCOLORATION TGLS = TGL2]			
SKIN	RIGHT, FORELIMB	CRUST	DARK
Observation Comment: 5 X 4 mm [CRUST TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1027	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD189
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702042
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN		OLIGODENDROGLIOMA	MALIGNANT	
Tissue Comment: TGL 2-3, TGL 2-4, TGL 2-5				
[OLIGODENDROGLIOMA TGLS = TGL2-3, Gross Finding = BRAIN, DISCOLORATION, RED]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
SKIN		HYPERKERATOSIS	MILD	
[HYPERKERATOSIS TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, FORELIMB, CRUST, DARK]				
SPLEEN	WHITE PULP	ATROPHY	MODERATE	
CONTRIBUTORY CAUSE OF DEATH	- BRAIN OLIGODENDROGLIOMA MALIGNANT			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1028	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD581
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702043

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

AORTA	DILATION	
Observation Comment: firm; 6 mm diameter [DILATION TGLS = TGL9]		
EPIDIDYMIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]		
EPIDIDYMIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL8]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL7]		
NO CORRELATE	TO OBSERVATION / MASS	
PANCREAS	MASS	TAN
Observation Comment: 10 X 8 X 6 mm [MASS TGLS = TGL6]		
PROSTATE	DISCOLORATION	RED

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1028	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD581
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702043
Observation Comment: 6x3mm [DISCOLORATION TGLS = TGL5]				
TESTIS, LEFT			SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]				
TESTIS, RIGHT			SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL1]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1028	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD581
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702043

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS
EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

INTESTINE, SMALL, ILEUM	LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
AORTA		MINERAL	MODERATE
[MINERAL TGLS = TGL 9-10, Gross Finding = AORTA, DILATION,]			
EPIDIDYMIS		HYOSPERMIA	MILD
Tissue Comment: TGL 3-14, TGL 4-14			
[HYOSPERMIA TGLS = TGL3-14, TGL4-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]			
[HYOSPERMIA TGLS = TGL3-14, TGL4-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
HEART		CARDIOMYOPATHY	MINIMAL
		MINERAL	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 7-8, TGL 8-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL8-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL8-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	INTERSTITIUM	MINERAL	MINIMAL
PANCREAS	ACINAR CELL	ADENOMA	
[ADENOMA TGLS = TGL 6-17, Gross Finding = PANCREAS, MASS, TAN]			
PROSTATE		INFLAMMATION	CHRONIC, MINIMAL
[INFLAMMATION TGLS = TGL 5-16, Gross Finding = PROSTATE, DISCOLORATION, RED]			
STOMACH, GLANDULAR		MINERAL	MILD
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD
Tissue Comment: TGL 1-14, TGL 2-14			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1028	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD581
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702043
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness and pallor confirmed at necropsy, but not correlated to any gross lesions.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1029	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702044

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

SKELETAL MUSCLE	LEFT, HINDLIMB	MASS	RED
Observation Comment: 11 X 9 X 7 mm [MASS TGLS = TGL2]			
SKIN	LEFT, THORACIC	MASS	TAN
Observation Comment: 17 X 15 X 12 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1029	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702044

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PITUITARY GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART	VALVE	INFLAMMATION	CHRONIC, MODERATE
	VENTRICLE	THROMBUS	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
SKELETAL MUSCLE		HEMANGIOSARCOMA	
[HEMANGIOSARCOMA TGLS = TGL 2-18, Gross Finding = SKELETAL MUSCLE, LEFT, HINDLIMB, MASS, RED]			
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, THORACIC, MASS, TAN]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1030	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD514
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702045

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
LYMPH NODE, MESENTERIC	ENLARGED	DARK
Observation Comment: 4 X expected size; found at trim [ENLARGED TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
THYROID GLAND	ENLARGED	PALE
Observation Comment: bilateral; 1.5 X expected size [ENLARGED TGLS = TGL3]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1030 GENERATION: F1	TRT#: F1-1 SELECTION: F1 Core Animals	DOSE: 0 mg/L	SEX: Male DISP: Found Dead	REMOVAL DAY: SD514 HISTO: 1702045
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
THYMUS	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE	
AORTA		MINERAL	MILD	
BRAIN	THALAMUS	NECROSIS	FOCAL, MILD	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
ISLETS, PANCREATIC		ADENOMA		
[ADENOMA TGLS = TGL 4-9, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, DARK]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE, ONCOCYTE	HYPERPLASIA	MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MILD	
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
THYROID GLAND		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = THYROID GLAND, ENLARGED, PALE]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Partial cannabilization confirmed at necropsy, but not correlated with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1031	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD442
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702046

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

EYE	RIGHT	DISCOLORATION	OPAQUE
[DISCOLORATION TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	
Observation Comment: diffuse, granular			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: diffuse, granular			
[DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE		SMALL	
Observation Comment: bilateral; 0.5 X expected size			
[SMALL TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1031	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD442
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702046

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMISS
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		AMYLOID	MINIMAL
AORTA		MINERAL	MARKED
EYE	ANTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MILD
	CORNEA	INFLAMMATION	CHRONIC, MILD
[INFLAMMATION TGLS = TGL 1-13, Gross Finding = EYE, RIGHT, DISCOLORATION, OPAQUE]			
HEART		CARDIOMYOPATHY	MILD
INTESTINE, LARGE, CECUM		MINERAL	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 2-8, TGL 4-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LUNG	INTERSTITIUM	MINERAL	MILD
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
SEMINAL VESICLE		ATROPHY	MILD
		MINERAL	MILD
[ATROPHY TGLS = TGL 3-16, Gross Finding = SEMINAL VESICLE, SMALL,]			
SPLEEN	WHITE PULP	ATROPHY	MODERATE

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Thinness, ruffled coat and pallor confirmed at necropsy, but not correlated with any gross lesions.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1032	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702047

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	INGUINAL	MASS	TAN
Observation Comment: 20 X 15 X 5 mm [MASS TGLS = TGL1]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1032	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702047
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
		PHEOCHROMOCYTOMA	BENIGN	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
		FATTY CHANGE	FOCAL, MINIMAL	
SKIN		HYPERKERATOSIS	MILD	
[HYPERKERATOSIS TGLS = TGL 1-17, Gross Finding = SKIN, INGUINAL, MASS, TAN]				
TESTIS	GERMINAL EPITHELIUM	ATROPHY	MODERATE	
	GERMINAL EPITHELIUM	DEGENERATION	MILD	
[ATROPHY TGLS = TGL 2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL 2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat, nasal discharge, pallor, and thinness noted at necropsy, but not correlated to any specific gross lesions.				

ANIMAL ID: 1033	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702048

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

SKIN	LEFT	CRUST	TAN
Observation Comment: hind paw; 10 X 9 mm [CRUST TGLS = TGL1]			

ANIMAL ID: 1033	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702048
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
SKIN		ULCER	MODERATE	
[ULCER TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, CRUST, TAN]				

ANIMAL ID: 1034	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD301
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702049

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1034	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD301
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702049

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND

Tissue Comment: One adrenal gland was missing from slide set

HEART

VENTRICLE

CARDIOMYOPATHY

MILD

THROMBUS

KIDNEY

VENULE

CHRONIC PROGRESSIVE NEPHROPATHY

MINIMAL

THROMBUS

PRIMARY CAUSE OF DEATH

- UNDETERMINED

CONTRIBUTORY CAUSE OF DEATH

- HEART THROMBUS VENTRICLE

Animal Note: Nasal discharge was noted at necropsy, but did not correspond to any gross lesion.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1035	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD635
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702050

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, RIGHT	LARYNX	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		CYST	CLEAR, TWO
Observation Comment: 2 X 2 mm [CYST TGLS = TGL2]			
LIVER	LOBE, MEDIAN RIGHT	FOCUS FOCUS	WHITE DARK, ONE
Observation Comment: 2 X 2 mm Observation Comment: anterior; 3 X 2 mm; found at trim [FOCUS TGLS = TGL1] [FOCUS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1035	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD635
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702050
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
	[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL 2-18, Gross Finding = KIDNEY, LEFT, CYST, CLEAR, TWO]			
LIVER		ANGIECTASIS	MINIMAL	
		EOSINOPHILIC FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
Tissue Comment: TGL 1-17, TGL 3-19				
[ANGIECTASIS TGLS = TGL3-19, Gross Finding = LIVER, RIGHT, FOCUS, DARK, ONE]				
[EOSINOPHILIC FOCUS TGLS = TGL1-17, Gross Finding = LIVER, LOBE, MEDIAN, FOCUS, WHITE]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

ANIMAL ID: 1036	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD634
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702051

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

SKIN	LEFT	MASS	TAN
Observation Comment: abdomen; 68 X 55 X 42 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1036	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD634
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702051
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
PANCREAS	ACINUS	ATROPHY	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SKIN		FIBROMA		
[FIBROMA TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, MASS, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- SKIN FIBROMA			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1037	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702052

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		CYST	
Observation Comment: 1 X 1 X 1 mm; found at trim [CYST TGLS = TGL3]			
KIDNEY, RIGHT		CYST	
Observation Comment: 1 X 1 X 1 mm; found at trim [CYST TGLS = TGL2]			
SKIN	LEFT	CRUST	TAN
Observation Comment: hind foot; 11 X 11 mm [CRUST TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1037	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702052

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
		PHEOCHROMOCYTOMA	BENIGN
EPIDIDYMIS		HYPOSPERMIA	MODERATE
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 2-18, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-18, Gross Finding = KIDNEY, LEFT, CYST,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-18, Gross Finding = KIDNEY, RIGHT, CYST,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SKIN		ULCER	MODERATE
[ULCER TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, CRUST, TAN]			
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MODERATE

ANIMAL ID: 1038	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702053

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1038	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702053

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MILD
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL

Animal Note: Scab noted at necropsy, but did not correspond to any gross lesion.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1039	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702054

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

ADRENAL GLAND	RIGHT	ENLARGED	MOTTLED
Observation Comment: 13 X 9 X 8 mm [ENLARGED TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	PALE
[DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		CYST	CLEAR
Observation Comment: 5 X 4 X 3 mm [CYST TGLS = TGL4] [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1039	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702054

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HEMORRHAGE	CHRONIC, MARKED
[HEMORRHAGE TGLS = TGL 1-18, Gross Finding = ADRENAL GLAND, RIGHT, ENLARGED, MOTTLED]			
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
EPIDIDYMIS		HYOSPERMIA	MARKED
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE, ONCOCYTE	HYPERPLASIA	MINIMAL
Tissue Comment: TGL 2-8, TGL 3-8, TGL 4-17			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, TGL4-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, TGL4-17, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, TGL4-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
PANCREAS	ACINUS	ATROPHY	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED

CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Ruffled coat, nasal discharge, pallor and thinness noted at necropsy, but did not correlate to any gross lesions.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1040	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702055

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	MOTTLED
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL4]			
KIDNEY, LEFT		CYST DEFORMITY	CLEAR PALE
Observation Comment: 7 X 5 X 3 mm Observation Comment: granular [CYST TGLS = TGL5] [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LYMPH NODE, MANDIBULAR		ENLARGED	TAN
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PANCREAS		NODULE	DARK
Observation Comment: 4 X 4 X 3 mm; found at trim [NODULE TGLS = TGL6]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1040	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702055
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		NECROSIS	MODERATE	
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
		PHEOCHROMOCYTOMA	BENIGN	
[PHEOCHROMOCYTOMA TGLS = TGL 4-20, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, MOTTLED]				
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE, ONCOCYTE	HYPERPLASIA	MILD	
Tissue Comment: TGL 2-18, TGL 3-19, TGL 5-21				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-21, TGL3-19, TGL2-18, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-21, TGL3-19, TGL2-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-21, TGL3-19, TGL2-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
LYMPH NODE, MANDIBULAR		HYPERPLASIA	PLASMA CELL, MILD	
[HYPERPLASIA TGLS = TGL 1-17, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, TAN]				
PANCREAS		HEMORRHAGE	CHRONIC, MODERATE	
	ACINUS	HYPERPLASIA	MILD	
[HEMORRHAGE TGLS = TGL 6-17, Gross Finding = PANCREAS, NODULE, DARK]				
THYROID GLAND	FOLLICLES, EPITHELIUM	HYPERPLASIA	FOCAL, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1040

TRT#: F1-1

DOSE: 0 mg/L

SEX: Male

REMOVAL DAY: SD606

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702055

Animal Note: Confirmed pallor and red ocular discharge at necropsy, but these findings did not correlate with any gross lesions.

ANIMAL ID: 1041	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD469
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702056

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	

OBSERVATIONS

INTESTINE, LARGE, CECUM	
Tissue Comment: Intestinal tract filled with gas	
INTESTINE, LARGE, COLON	
Tissue Comment: Intestinal tract filled with gas	
INTESTINE, LARGE, RECTUM	
Tissue Comment: Intestinal tract filled with gas	
INTESTINE, SMALL, DUODENUM	
Tissue Comment: Intestinal tract filled with gas	
INTESTINE, SMALL, ILEUM	
Tissue Comment: Intestinal tract filled with gas	
INTESTINE, SMALL, JEJUNUM	
Tissue Comment: Intestinal tract filled with gas	
KIDNEY, LEFT	DEFORMITY
Observation Comment: granular; found at trim	
[DEFORMITY TGLS = TGL3]	
KIDNEY, RIGHT	DEFORMITY
Observation Comment: granular; found at trim	
[DEFORMITY TGLS = TGL4]	
NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1041	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD469
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702056
SEMINAL VESICLE		SMALL		
Observation Comment: bilateral; 0.5 X expected size; found at trim				
[SMALL TGLS = TGL5]				
TOOTH		DEFORMITY		
Observation Comment: bilateral; upper and lower malocclusion				
[DEFORMITY TGLS = TGL2]				
ZYMBALS GLAND	LEFT	MASS	TAN	
Observation Comment: 35 X 25 X 20 mm				
[MASS TGLS = TGL1]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1041	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD469
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702056
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
SEMINAL VESICLE		ATROPHY	MILD	
[ATROPHY TGLS = TGL 5-16, Gross Finding = SEMINAL VESICLE, SMALL,]				
SKIN		SARCOMA		
[SARCOMA TGLS = TGL 1-17, Gross Finding = ZYMBALS GLAND, LEFT, MASS, TAN]				
TOOTH		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 2-NCL, Gross Finding = TOOTH, DEFORMITY,]				
CONTRIBUTORY CAUSE OF DEATH	- SKIN SARCOMA			
Animal Note: Pallor present at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1042	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702057

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PROSTATE	SALIVARY GLANDS
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

BONE	LEFT, MANDIBLE	MASS	TAN
Observation Comment: 25 X 20 X 13 mm [MASS TGLS = TGL6]			
LIVER	LOBE, LEFT	NODULE	TAN
Observation Comment: 3 X 3 X 3 mm [NODULE TGLS = TGL7]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; found at trim; all lobes affected [FOCUS TGLS = TGL9]			
LYMPH NODE	INGUINAL	ENLARGED	TAN
Observation Comment: 5 X expected size [ENLARGED TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 7 X 5 X 5 mm [ENLARGED TGLS = TGL8]			
PREPUTIAL GLAND	LEFT	ENLARGED	GREEN
Observation Comment: 5 X expected size [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1042	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702057
SEMINAL VESICLE		SMALL		
Observation Comment: bilateral; 0.5 X expected size				
[SMALL TGLS = TGL4]				
SKIN	DORSAL	MASS		TAN
		MASS		GREEN
Observation Comment: 15 X 12 X 5 mm				
Observation Comment: 8 X 8 X 7 mm; filled with green material				
[MASS TGLS = TGL5]				
[MASS TGLS = TGL2]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1042	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702057

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PROSTATE	SALIVARY GLAND	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
BONE		FIBROSIS	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER	BILE DUCT	CYST	
	BILE DUCT	HYPERPLASIA	MILD
[CYST TGLS = TGL 7-20, Gross Finding = LIVER, LOBE, LEFT, NODULE, TAN]			
LUNG		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 9-NCL, Gross Finding = LUNG, FOCUS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 8-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
PREPUTIAL GLAND	DUCT	DILATION	MODERATE
[DILATION TGLS = TGL 3-15, Gross Finding = PREPUTIAL GLAND, LEFT, ENLARGED, GREEN]			
SEMINAL VESICLE		ATROPHY	MILD
[ATROPHY TGLS = TGL 4-16, Gross Finding = SEMINAL VESICLE, SMALL,]			
SKIN		KERATOACANTHOMA	MULTIPLE
		NO CORRESPONDING LESION	
Tissue Comment: TGL 1-17, TGL 2-18, TGL 5-NCL			
[KERATOACANTHOMA TGLS = TGL2-18, TGL1-17, Gross Finding = LYMPH NODE, INGUINAL, ENLARGED, TAN]			
[KERATOACANTHOMA TGLS = TGL2-18, TGL1-17, Gross Finding = SKIN, MASS, GREEN]			
[NO CORRESPONDING LESION TGLS = TGL5-NCL, Gross Finding = SKIN, DORSAL, MASS, TAN]			
ZYMBALS GLAND		CARCINOMA	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1042	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702057
[CARCINOMA TGLS = TGL 6-21, Gross Finding = BONE, LEFT, MANDIBLE, MASS, TAN]				
CONTRIBUTORY CAUSE OF DEATH - ZYMBALS GLAND CARCINOMA				
Animal Note: Thinness, ocular discharge (red), and ruffled coat confirmed at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1043	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD507
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702058

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, PAW	THICK	PALE
	RIGHT, PAW	THICK	PALE

Observation Comment: hind; 5 X expected thickness; found at trim

Observation Comment: hind; 5 X expected thickness; rear limb soft tissue slightly thickened but no definitive edema or cause of clinical signs

[THICK TGLS = TGL2]

[THICK TGLS = TGL1]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1043	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD507
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702058
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
BONE	BILATERAL, CARPAL	FRACTURE		
Tissue Comment: TGL 1-17, TGL 2-18				
[FRACTURE TGLS = TGL2-18, TGL1-17, Gross Finding = SKIN, LEFT, PAW, THICK, PALE]				
[FRACTURE TGLS = TGL2-18, TGL1-17, Gross Finding = SKIN, RIGHT, PAW, THICK, PALE]				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
STOMACH, GLANDULAR		MINERAL	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Swelling (bilateral) of hindlimbs confirmed at necropsy but not correlated with any specific gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1044	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD572
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702059

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER		

OBSERVATIONS

AORTA	ENLARGED	
Observation Comment: 8 mm diameter [ENLARGED TGLS = TGL3]		
KIDNEY, LEFT	CYST DEFORMITY	PINK PALE
Observation Comment: 3 X 2 X 2 mm; found at trim Observation Comment: granular [CYST TGLS = TGL5] [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	CYST DEFORMITY	PALE
Observation Comment: 4 X 4 X 3 mm; found at trim Observation Comment: granular [CYST TGLS = TGL6] [DEFORMITY TGLS = TGL1]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; 1 X 1 mm; found at trim [FOCUS TGLS = TGL7]		
NO CORRELATE	TO OBSERVATION / MASS	

ANIMAL ID: 1044	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD572
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702059
ZYMBALS GLAND	LEFT	MASS		MOTTLED
Observation Comment: 15 X 10 X 5 mm				
[MASS TGLS = TGL4]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1044	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD572
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702059
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MARKED	
[MINERAL TGLS = TGL 3-17, Gross Finding = AORTA, ENLARGED,]				
EPIDIDYMIS		HYOSPERMIA	MILD	
EYE	ANTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MINIMAL	
	CORNEA	INFLAMMATION	SUPPURATIVE, MINIMAL	
	POSTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 5-8, TGL 6-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL5-8, TGL6-8, TGL2-8, Gross Finding = KIDNEY, LEFT, CYST, PINK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL5-8, TGL6-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL5-8, TGL6-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, CYST,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL5-8, TGL6-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	MINERAL	MODERATE	
Tissue Comment: TGL 7-6, TGL 7-7				
[MINERAL TGLS = TGL7-6, Gross Finding = LUNG, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SKIN		SQUAMOUS CELL CARCINOMA		
[SQUAMOUS CELL CARCINOMA TGLS = TGL 4-18, Gross Finding = ZYMBALS GLAND, LEFT, MASS, MOTTLED]				
SPLEEN	WHITE PULP	ATROPHY	MODERATE	
STOMACH, FORESTOMACH		MINERAL	MINIMAL	

ANIMAL ID: 1044	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD572
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702059
STOMACH, GLANDULAR		MINERAL		MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION		MILD
THYROID GLAND	C-CELL	HYPERPLASIA		MINIMAL
	FOLLICLES, EPITHELIUM	HYPERPLASIA		FOCAL, MINIMAL
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1045	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702060

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1045	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702060
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY	RENAL TUBULE	ADENOMA		
		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1046	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD506
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702061

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; all lobes affected; found at trim [FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.5X expected size; found at trim [SMALL TGLS = TGL2]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size; found at trim [SMALL TGLS = TGL3]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1046	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD506
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702061

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
EPIDIDYMIS		HYOSPERMIA	MARKED
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED
Tissue Comment: TGL 2-14, TGL 3-14			
[ATROPHY TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL,]			
[ATROPHY TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL,]			

PRIMARY CAUSE OF DEATH	- UNDETERMINED
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Red ocular discharge was noted at necropsy, but did not correlate with any gross lesion.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1047	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702062

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	CYST	PINK
Observation Comment: 3 X 3 X 2 mm, found at trim Observation Comment: granular [CYST TGLS = TGL4] [DEFORMITY TGLS = TGL2]	DEFORMITY	PALE
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1047 GENERATION: F1	TRT#: F1-1 SELECTION: F1 Core Animals	DOSE: 0 mg/L	SEX: Male DISP: Euthanized Moribund	REMOVAL DAY: SD637 HISTO: 1702062
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 4-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, CYST, PINK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
PREPUTIAL GLAND				
Tissue Comment: Only one preputial gland with the slide set				
STOMACH, FORESTOMACH		MINERAL	MINIMAL	
		ULCER	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
[DEGENERATION TGLS = TGL 3-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Damaged tail, pallor, thinness, and ruffled coat were noted at necropsy, but did not correlate with any specific gross findings				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1048	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD502
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702063

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1048	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD502
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702063
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
PANCREAS	ACINUS	HYPERPLASIA	MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Green discoloration of abdomen and thinness confirmed at necropsy, but did not correlate with any gross lesions.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1049	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD585
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702064

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 3 X 2 X 2 mm [CYST TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT	MASS	MOTTLED
Observation Comment: abdomen; 90 X 85 X 60 mm; ulcerated [MASS TGLS = TGL1]			
ZYMBALS GLAND	LEFT	ENLARGED	MOTTLED
Observation Comment: 35 X 25 X 25 mm; ulcerated [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1049	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD585
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702064
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	STOMACH, FORESTOMACH	TESTIS	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
	PELVIS	INFLAMMATION	SUPPURATIVE, MODERATE	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	CYST		
[CYST TGLS = TGL 5-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
MAMMARY GLAND	ALVEOLUS	HYPERPLASIA	MILD	
PANCREAS	ACINUS	HYPERPLASIA	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PREPUTIAL GLAND				
Tissue Comment: Only one preputial gland with this case				
SKIN		FIBROMA		
[FIBROMA TGLS = TGL 1-18, Gross Finding = SKIN, RIGHT, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, GLANDULAR		MINERAL	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
ZYMBALS GLAND		ADENOMA		
[ADENOMA TGLS = TGL 2-17, Gross Finding = ZYMBALS GLAND, LEFT, ENLARGED, MOTTLED]				
CONTRIBUTORY CAUSE OF DEATH	- ZYMBALS GLAND ADENOMA			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1049

TRT#: F1-1

DOSE: 0 mg/L

SEX: Male

REMOVAL DAY: SD585

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702064

Animal Note: Pallor and thinness noted at necropsy, but did not correlate with any gross lesions.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1050	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702065

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

AORTA	DILATION	
Observation Comment: 5 X expected size [DILATION TGLS = TGL7]		
EPIDIDYMIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL10]		
EPIDIDYMIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL9]		
INTESTINE, SMALL, DUODENUM	NODULE	TAN
Observation Comment: 3 X 2 X 2 mm [NODULE TGLS = TGL6]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	MOTTLED

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1050	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702065
Observation Comment: 6 X 6 X 2 mm [ENLARGED TGLS = TGL8]				
SEMINAL VESICLE	BILATERAL		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]				
TESTIS, LEFT			SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]				
TESTIS, RIGHT			SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1050	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702065

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE	THYMUS

OBSERVATIONS

ADRENAL MEDULLA	BILATERAL	HYPERPLASIA	FOCAL, MODERATE
AORTA		MINERAL	MARKED
[MINERAL TGLS = TGL 7-10, Gross Finding = AORTA, DILATION,]			
EPIDIDYMIS		HYOSPERMIA	MARKED
Tissue Comment: TGL 9-14, TGL 10-14			
[HYOSPERMIA TGLS = TGL9-14, TGL10-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]			
[HYOSPERMIA TGLS = TGL9-14, TGL10-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
INTESTINE, SMALL, JEJUNUM		ADENOCARCINOMA	
[ADENOCARCINOMA TGLS = TGL 6-9, Gross Finding = INTESTINE, SMALL, DUODENUM, NODULE, TAN]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE, BILATERAL	HYPERPLASIA	ATYPICAL, MILD
	PELVIS	INFLAMMATION	SUPPURATIVE, MODERATE
Tissue Comment: TGL 4-17, TGL 5-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		FATTY CHANGE	FOCAL, MINIMAL
MAMMARY GLAND	ALVEOLUS	HYPERPLASIA	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 8-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
PROSTATE		INFLAMMATION	CHRONIC, MODERATE
SEMINAL VESICLE		ATROPHY	MODERATE
[ATROPHY TGLS = TGL 3-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]			

ANIMAL ID: 1050	TRT#: F1-1	DOSE: 0 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702065
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
Tissue Comment: TGL 1-14, TGL 2-14				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	ADENOMA		
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Thinness and pallor were noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1051	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702136

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

LIVER	LOBE, MEDIAN	MASS	MOTTLED
Observation Comment: 15 X 10 X 5 mm [MASS TGLS = TGL2]			
SKIN	LEFT, PAW RIGHT, PAW	NODULE NODULE	TAN TAN
Observation Comment: hind; 5 X 3 X 2 mm Observation Comment: hind; 5 X 5 X 3 mm [NODULE TGLS = TGL3] [NODULE TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1051	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702136
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL	
ISLETS, PANCREATIC		ADENOMA		
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HEPATOCELLULAR ADENOMA		
		HYPERPLASIA	MINIMAL	
[HEPATOCELLULAR ADENOMA TGLS = TGL 2-18, Gross Finding = LIVER, LOBE, MEDIAN, MASS, MOTTLED]				
LYMPH NODE, MANDIBULAR		INFLAMMATION	GRANULOMATOUS, MILD	
SKIN	DERMIS	INFLAMMATION	CHRONIC, MODERATE	
		KERATOACANTHOMA		
Tissue Comment: TGL 1-17, TGL 3-17				
[INFLAMMATION TGLS = TGL3-17, Gross Finding = SKIN, LEFT, PAW, NODULE, TAN]				
[KERATOACANTHOMA TGLS = TGL1-17, Gross Finding = SKIN, RIGHT, PAW, NODULE, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1052	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD544
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702137

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1052	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD544
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702137
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, GLANDULAR	TESTIS	THYMUS	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
STOMACH, FORESTOMACH	BASAL CELL	HYPERPLASIA	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1053	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702138

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

BRAIN	LEFT, CEREBRUM	NODULE	WHITE
Observation Comment: 2 X 1 X 1 mm [NODULE TGLS = TGL2]			
LYMPH NODE, MANDIBULAR		ENLARGED	TAN
Observation Comment: 4 X expected size [ENLARGED TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 10 X 6 X 4 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1053	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702138

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	EPIDIDYMIS
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
BRAIN		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 2-NCL, Gross Finding = BRAIN, LEFT, CEREBRUM, NODULE, WHITE]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LYMPH NODE, MANDIBULAR	LYMPHATIC, SINUS	ECTASIA	MODERATE
[ECTASIA TGLS = TGL 1-12, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			

Animal Note: Ruffled coat was noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1054	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD346
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702139

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1054	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD346
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702139
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
AORTA		MINERAL	MARKED	
EPIDIDYMIS		HYOSPERMIA	MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	MINERAL	MODERATE	
STOMACH, GLANDULAR		MINERAL	MARKED	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thin,ness, pallor, ruffled coat, and red nasal discharge were seen at necropsy, but did not correspond with any gross lesions.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1055	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD582
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702140

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

EYE	LEFT	DISCOLORATION	OPAQUE
[DISCOLORATION TGLS = TGL3]			
KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.25 X expected size			
[SMALL TGLS = TGL1]			
SKIN	VENTRAL, THORACIC	MASS	MOTTLED
Observation Comment: 90 X 80 X 30 mm; fluid-filled and incorporates the salivary gland and lymph nodes (mandibular)			
[MASS TGLS = TGL2]			
THYROID GLAND	BILATERAL	ENLARGED	
Observation Comment: 2 X expected size; found at trim			
[ENLARGED TGLS = TGL6]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1055	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD582
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702140
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE	LYMPH NODE, MANDIBULAR	SALIVARY GLAND		
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
EPIDIDYMIS		HYOSPERMIA	MINIMAL	
EYE	ANTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MODERATE	
	CORNEA	INFLAMMATION	CHRONIC, MARKED	
[INFLAMMATION TGLS = TGL 3-13, Gross Finding = EYE, LEFT, DISCOLORATION, OPAQUE]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
SEMINAL VESICLE		ATROPHY	MILD	
[ATROPHY TGLS = TGL 1-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
SKIN		SCHWANNOMA	MALIGNANT	
[SCHWANNOMA TGLS = TGL 2-17, Gross Finding = SKIN, VENTRAL, THORACIC, MASS, MOTTLED]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MINIMAL	
THYROID GLAND	C-CELL, BILATERAL	ADENOMA		
[ADENOMA TGLS = TGL 6-11, Gross Finding = THYROID GLAND, BILATERAL, ENLARGED,]				
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
- SKIN SCHWANNOMA MALIGNANT				

Animal Note: Red nasal discharge, thinness, and ruffled coat were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1056	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702141

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

EYE	LEFT	DISCOLORATION	OPAQUE
[DISCOLORATION TGLS = TGL1]			
LIVER	LOBE, MEDIAN	MASS	WHITE
Observation Comment: 6 X 6 X 4 mm			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1056	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702141

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
[INFLAMMATION TGLS = TGL 1-13, Gross Finding = EYE, LEFT, DISCOLORATION, OPAQUE]			
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CHOLANGIOCARCINOMA	
[CHOLANGIOCARCINOMA TGLS = TGL 2-17, Gross Finding = LIVER, LOBE, MEDIAN, MASS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL

Animal Note: Eye opacity and ruffled coat were noted at necropsy, but did not correlate with any gross lesion.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1057	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702142

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1057	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702142

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		GANGLIONEUROMA	BENIGN
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	MULTIPLE
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MILD

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1058	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702143

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM Observation Comment: 7 X 6 X 3 mm [MASS TGLS = TGL2]		MASS	TAN
KIDNEY, LEFT Observation Comment: 1.5 X expected size; granular; found at trim [ENLARGED TGLS = TGL5]		ENLARGED	
KIDNEY, RIGHT Observation Comment: 6 X 4 X 3 mm; found at trim Observation Comment: granular; 1.5 X expected size; found at trim [CYST TGLS = TGL3] [ENLARGED TGLS = TGL4]		CYST ENLARGED	DARK
NO CORRELATE		TO OBSERVATION / MASS	
SKIN Observation Comment: upper; 5 X 4 X 3 mm [NODULE TGLS = TGL1]	RIGHT, LIP	NODULE	PINK

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1058	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702143

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	STOMACH, FORESTOMACH	TESTIS	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
INTESTINE, SMALL, JEJUNUM		ADENOCARCINOMA	
[ADENOCARCINOMA TGLS = TGL 2-18, Gross Finding = INTESTINE, SMALL, JEJUNUM, MASS, TAN]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 3-17, TGL 4-17, TGL 5-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL3-17, TGL5-8, Gross Finding = KIDNEY, LEFT, ENLARGED,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL3-17, TGL5-8, Gross Finding = KIDNEY, RIGHT, CYST, DARK]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL3-17, TGL5-8, Gross Finding = KIDNEY, RIGHT, ENLARGED,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SKIN		BASAL CELL ADENOMA	
[BASAL CELL ADENOMA TGLS = TGL 1-18, Gross Finding = SKIN, RIGHT, LIP, NODULE, PINK]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR		MINERAL	MILD
THYROID GLAND	FOLLICLES, EPITHELIUM	HYPERPLASIA	FOCAL, MINIMAL

ANIMAL ID: 1059	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702144

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, FORELIMB	MASS	TAN
Observation Comment: 38 X 30 X 18 mm; ulcerated			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1059	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702144

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SKIN		TRICHOEPITHELIOMA	BENIGN
[TRICHOEPITHELIOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, FORELIMB, MASS, TAN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD

Animal Note: Pallor was seen at necropsy, but did not correlate with any specific necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1060	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD525
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702145

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 3 X 1 mm			
[FOCUS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PROSTATE	LEFT	SMALL	
Observation Comment: 0.5 X expected size			
[SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1060	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD525
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702145

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PREPUTIAL GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
EYE	CORNEA	INFLAMMATION	CHRONIC, MODERATE
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 3-17, TGL 4-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-17, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-17, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG		LYMPHOMA	MALIGNANT
Tissue Comment: TGL 1-6, TGL 1-7			
[LYMPHOMA TGLS = TGL1-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
PROSTATE	ACINUS	ATROPHY	MILD
[ATROPHY TGLS = TGL 2-16, Gross Finding = PROSTATE, LEFT, SMALL,]			
SEMINAL VESICLE		INFLAMMATION	CHRONIC, MINIMAL
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY		
	- LUNG LYMPHOMA MALIGNANT		

Animal Note: Thinness, ruffled coat, and discharges from eyes and nose (red) were noted at necropsy, but did not correlate with any gross findings.

ANIMAL ID: 1061	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD468
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702146

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

PITUITARY GLAND	ENLARGED	DARK
Observation Comment: 8 X 7 X 6 mm		
[ENLARGED TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1061	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD468
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702146
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1062	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702147

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

HEART	RIGHT, ATRIUM	NODULE	TAN
Observation Comment: 8 X 5 X 5 mm; found at trim [NODULE TGLS = TGL2]			
KIDNEY, LEFT		ENLARGED	
Observation Comment: granular; 1.5 X expected size; found at trim [ENLARGED TGLS = TGL3]			
KIDNEY, RIGHT		ENLARGED	
Observation Comment: granular; 1.5 X expected size; found at trim [ENLARGED TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
PREPUTIAL GLAND	RIGHT	MASS	TAN
Observation Comment: 30 X 22 X 10 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1062	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702147
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PITUITARY GLAND	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND	THYMUS		
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
		PHEOCHROMOCYTOMA	BENIGN	
HEART	ATRIUM	THROMBUS		
[THROMBUS TGLS = TGL 2-18, Gross Finding = HEART, RIGHT, ATRIUM, NODULE, TAN]				
ISLETS, PANCREATIC		ADENOMA		
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	PELVIS	INFLAMMATION	SUPPURATIVE, MILD	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, ENLARGED,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, ENLARGED,]				
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MODERATE	
MAMMARY GLAND	ALVEOLUS	HYPERPLASIA	MILD	
PANCREAS	ACINUS	HYPERPLASIA	MILD	
PREPUTIAL GLAND	BILATERAL	ADENOCARCINOMA		
[ADENOCARCINOMA TGLS = TGL 1-17, Gross Finding = PREPUTIAL GLAND, RIGHT, MASS, TAN]				
PROSTATE		INFLAMMATION	CHRONIC, MILD	
THYROID GLAND	C-CELL	ADENOMA		
	C-CELL	HYPERPLASIA	MARKED	
Animal Note: Thinness was noted at necropsy, but did not correlate with any gross finding.				

ANIMAL ID: 1063	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702148

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

SKIN	LEFT, AXILLARY	MASS	TAN
Observation Comment: 65 X 55 X 35 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1063	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702148
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		ADENOCARCINOMA		
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
SKIN		FIBROMA		
[FIBROMA TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, AXILLARY, MASS, TAN]				
STOMACH, GLANDULAR		MINERAL	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1064	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702149

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		CYST	CLEAR
Observation Comment: 5 X 5 X 2 mm [CYST TGLS = TGL3]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 6 X 6 X 5 mm [ENLARGED TGLS = TGL4]			
SKIN	LEFT, THORACIC	CRUST	TAN
	RIGHT, HINDLIMB	MASS	TAN
Observation Comment: 10 X 7 mm			
Observation Comment: 10 X 8 X 5 mm			
[CRUST TGLS = TGL2]			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1064	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702149
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL 3-18, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
SKIN		EPIDERMAL INCLUSION CYST		
		KERATOACANTHOMA		
Tissue Comment: TGL 1-17, TGL 2-17				
[EPIDERMAL INCLUSION CYST TGLS = TGL2-17, Gross Finding = SKIN, LEFT, THORACIC, CRUST, TAN]				
[KERATOACANTHOMA TGLS = TGL1-17, Gross Finding = SKIN, RIGHT, HINDLIMB, MASS, TAN]				
STOMACH, GLANDULAR		MINERAL	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MARKED	

ANIMAL ID: 1065	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD476
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702150

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, LARGE, CECUM		
Tissue Comment: Gastrointestinal tract is gas-filled		
NO CORRELATE		TO OBSERVATION / MASS
SEMINAL VESICLE	BILATERAL	SMALL
Observation Comment: 0.25 X expected size		
[SMALL TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1065	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD476
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702150
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		FATTY CHANGE	FOCAL, MINIMAL	
	BILE DUCT	HYPERPLASIA	MINIMAL	
NOSE		INFLAMMATION	SUPPURATIVE, MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SEMINAL VESICLE		ATROPHY	MILD	
[ATROPHY TGLS = TGL 1-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH				
- UNDETERMINED				
Animal Note: Soiled coat (head) and red nasal discharge were noted at trim, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1066	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD367
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702151

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

EYE	BILATERAL, CORNEA	DISCOLORATION	DIFFUSE, PALE
[DISCOLORATION TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 6 X 6 X 4 mm; TGL-1 compressed the brain and partially proptosed the eyes			
[ENLARGED TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1066	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD367
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702151

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

EYE	NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 2-NCL, Gross Finding = EYE, BILATERAL, CORNEA, DISCOLORATION, DIFFUSE, PALE]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
MAMMARY GLAND	DUCT	DILATION	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1067	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD364
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702152

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

LYMPH NODE, MANDIBULAR	LEFT	MASS	PALE
	RIGHT	MASS	PALE
Observation Comment: 10 X 8 X 5 mm			
Observation Comment: 20 X 20 X 15 mm			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
THYMUS		SMALL	
Observation Comment: 0.25 X expected size			
[SMALL TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1067	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD364
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702152

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN
STOMACH, GLANDULAR	TESTIS	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

EPIDIDYMIS		HYOSPERMIA	MODERATE
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
PREPUTIAL GLAND			
Tissue Comment: Only one preputial gland with the slide set			
SKIN		EPIDERMAL INCLUSION CYST	
	DERMIS	INFLAMMATION	SUPPURATIVE, MARKED
Tissue Comment: TGL 1-17, TGL 3-18			
[EPIDERMAL INCLUSION CYST TGLS = TGL1-17, Gross Finding = LYMPH NODE, MANDIBULAR, RIGHT, MASS, PALE]			
[INFLAMMATION TGLS = TGL3-18, TGL1-17, Gross Finding = LYMPH NODE, MANDIBULAR, LEFT, MASS, PALE]			
[INFLAMMATION TGLS = TGL3-18, TGL1-17, Gross Finding = LYMPH NODE, MANDIBULAR, RIGHT, MASS, PALE]			
STOMACH, FORESTOMACH	SUBMUCOSA	INFLAMMATION	CHRONIC, MILD
THYMUS		ATROPHY	MODERATE
[ATROPHY TGLS = TGL 2-7, Gross Finding = THYMUS, SMALL,]			
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

CONTRIBUTORY CAUSE OF DEATH - SKIN INFLAMMATION DERMIS SUPPURATIVE

Animal Note: Pallor, thinness, and ruffled coat were noted at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1068	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702153

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

ADRENAL GLAND		ENLARGED	
Observation Comment: unilateral; 2 X expected size; found at trim [ENLARGED TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, DORSAL	CRUST	BROWN
Observation Comment: 9 X 9 mm [CRUST TGLS = TGL1]			
SPLEEN		ENLARGED	RED
Observation Comment: 65 X 15 X 10 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1068	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702153

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	STOMACH, FORESTOMACH
TESTIS	THYMUS	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		ADENOMA	
ADRENAL MEDULLA	BILATERAL	PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 3-11, Gross Finding = ADRENAL GLAND, ENLARGED,]			
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		LYMPHOMA	MALIGNANT
LUNG		LYMPHOMA	MALIGNANT
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SKIN		HYPERKERATOSIS	MINIMAL
[HYPERKERATOSIS TGLS = TGL 1-18, Gross Finding = SKIN, LEFT, DORSAL, CRUST, BROWN]			
SPLEEN		LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 2-17, Gross Finding = SPLEEN, ENLARGED, RED]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

Animal Note: Ruffled coat was noted at necropsy, but did not correspond with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1069	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702154

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LIVER	CAUDATE LOBE	NODULE	TAN
Observation Comment: 3 X 3 X 2 mm [NODULE TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		NODULE	TAN
Observation Comment: 2 X 2 X 1 mm [NODULE TGLS = TGL6]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1069	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702154
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MARKED	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 5-NCL, Gross Finding = LIVER, CAUDATE LOBE, NODULE, TAN]				
LUNG	INTERSTITIUM	MINERAL	MODERATE	
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
	PARS DISTALIS	HYPERPLASIA	MINIMAL	
[ADENOMA TGLS = TGL 6-11, Gross Finding = PITUITARY GLAND, NODULE, TAN]				
STOMACH, GLANDULAR		MINERAL	MARKED	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1069

TRT#: F1-2

DOSE: 30 mg/L

SEX: Male

REMOVAL DAY: SD549

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702154

Animal Note: Pallor, thinness, and red nasal discharge were noted at necropsy, but did not correspond with any gross lesions.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1070	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD592
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702155

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LUNG	LYMPH NODE, MANDIBULAR	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, LARGE, CECUM		THICK	
Observation Comment: 2 X expexted size [THICK TGLS = TGL10]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
LIVER	LOBE, MEDIAN RIGHT	CYST FOCUS	CLEAR TAN
Observation Comment: 3 X 2 X 1 mm Observation Comment: anterior; 2 X 2 mm [CYST TGLS = TGL8] [FOCUS TGLS = TGL7]			
LYMPH NODE, MESENTERIC		ENLARGED	DARK
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL9]			
NO CORRELATE		TO OBSERVATION / MASS	
TESTIS, LEFT		SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1070	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD592
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702155
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]				
TESTIS, RIGHT			SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]				
THYROID GLAND	LEFT		ENLARGED	
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL5]				
TONGUE	MUCOSA		FOCUS	DARK
Observation Comment: 4 X 2 mm [FOCUS TGLS = TGL6]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1070	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD592
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702155

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
AORTA		MINERAL	MILD
HEART		CARDIOMYOPATHY	MINIMAL
INTESTINE, LARGE, CECUM		MINERAL	MODERATE
[MINERAL TGLS = TGL 10-10, Gross Finding = INTESTINE, LARGE, CECUM, THICK,]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER	BILE DUCT	CYST	
	BILE DUCT	HYPERPLASIA	MINIMAL
		MIXED CELL FOCUS	
Tissue Comment: TGL 7-18, TGL 8-19			
[CYST TGLS = TGL7-18, Gross Finding = LIVER, RIGHT, FOCUS, TAN]			
[MIXED CELL FOCUS TGLS = TGL8-19, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR]			
LYMPH NODE, MESENTERIC		HEMORRHAGE	CHRONIC, MARKED
[HEMORRHAGE TGLS = TGL 9-9, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, DARK]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR		MINERAL	MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE
Tissue Comment: TGL 3-14, TGL 4-14			
[DEGENERATION TGLS = TGL3-14, TGL4-14, Gross Finding = TESTIS, LEFT, SMALL,]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1070	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD592
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702155
[DEGENERATION TGLS = TGL3-14, TGL4-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL		ADENOMA	
[ADENOMA TGLS = TGL 5-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED,]				
TONGUE			NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 6-NCL, Gross Finding = TONGUE, MUCOSA, FOCUS, DARK]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Dorsal alopecia, pallor, and thinness were seen at necropsy, but did not correlate with any gross lesions.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1071	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD381
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702156

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 2 mm in diameter; all lobes affected [FOCUS TGLS = TGL2]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1071	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD381
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702156

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART	CARDIOMYOPATHY	MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 1-8, TGL 3-8		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]		
LUNG	ALVEOLUS	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7		
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]		

CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1072	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD548
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702157

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
KIDNEY, RIGHT	CYST	DARK
Observation Comment: 2 X 2 X 1 mm; found at trim	DEFORMITY	PALE
Observation Comment: granular [CYST TGLS = TGL5] [DEFORMITY TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1072	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD548
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702157
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
THYMUS	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
AORTA		MINERAL	MODERATE	
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, CYST, DARK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
		INTERSTITIAL CELL ADENOMA		
Tissue Comment: TGL 1-14, TGL 2-14				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1072

TRT#: F1-2

DOSE: 30 mg/L

SEX: Male

REMOVAL DAY: SD548

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702157

Animal Note: Ruffled coat was noted at necropsy, but did not correspond with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1073	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD568
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702158

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1073	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD568
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702158

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	EPIDIDYMIS
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE	MAMMARY GLAND

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
BRAIN		ASTROCYTOMA	MALIGNANT
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
		FATTY CHANGE	DIFFUSE, MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MINIMAL

PRIMARY CAUSE OF DEATH	- UNDETERMINED
CONTRIBUTORY CAUSE OF DEATH	- BRAIN ASTROCYTOMA MALIGNANT

Animal Note: Soiled coat and red nasal and ocular discharges were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1074	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702159

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1074	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702159

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
EPIDIDYMIS		HYOSPERMIA	MINIMAL
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
		FATTY CHANGE	FOCAL, MINIMAL
STOMACH, GLANDULAR		MINERAL	MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MILD

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1075 GENERATION: F1	TRT#: F1-2 SELECTION: F1 Core Animals	DOSE: 30 mg/L	SEX: Male DISP: Found Dead	REMOVAL DAY: SD242 HISTO: 1702160
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND		
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1076	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD445
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702161

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 5 X 4 X 3 mm [CYST TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1076	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD445
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702161
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CHOLANGIOFIBROSIS	MINIMAL	
	BILE DUCT	CYST		
	BILE DUCT	HYPERPLASIA	MINIMAL	
[CYST TGLS = TGL 2-17, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM	ATROPHY	MARKED	
	GERMINAL EPITHELIUM	DEGENERATION	MILD	
[ATROPHY TGLS = TGL 1-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL 1-14, Gross Finding = TESTIS, LEFT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, ruffled coat, and pallor were noted at necropsy, but were not correlated with any specific necropsy findings.				

ANIMAL ID: 1077	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD435
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702162

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL1]	
KIDNEY, RIGHT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL2]	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1077	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD435
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702162
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1078	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD635
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702163
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
AORTA	BONE, FEMUR	BRAIN	CARCASS	
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND		
OBSERVATIONS				
ADRENAL GLAND	RIGHT	ENLARGED		
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL1]				
KIDNEY, LEFT		CYST DEFORMITY	CLEAR PALE	
Observation Comment: 1 X 1 mm Observation Comment: granular [CYST TGLS = TGL4] [DEFORMITY TGLS = TGL2]				
KIDNEY, RIGHT		DEFORMITY	PALE	
Observation Comment: granular [DEFORMITY TGLS = TGL3]				
LUNG	LEFT	FOCUS	WHITE	
Observation Comment: multiple; 1 X 1 mm; found at trim [FOCUS TGLS = TGL5]				
NO CORRELATE		TO OBSERVATION / MASS		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1078	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD635
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702163
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
[PHEOCHROMOCYTOMA TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, RIGHT, ENLARGED,]				
EPIDIDYMIS		HYOSPERMIA	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 2-17, TGL 3-8, TGL 4-18				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-17, TGL4-18, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-17, TGL4-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-17, TGL4-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
[INFILTRATION CELLULAR TGLS = TGL 5-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
	PARS DISTALIS	HYPERPLASIA	MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Nasal discharge (red) seen at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1079	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702164

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1079	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702164
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR		BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND		INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM		INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR		LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS		PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND		SEMINAL VESICLE
SKIN	SPLEEN	THYMUS		THYROID GLAND
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL		MODERATE
EPIDIDYMIS		HYOSPERMIA		MILD
HEART		CARDIOMYOPATHY		MILD
		MINERAL		MODERATE
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY		MARKED
	RENAL TUBULE	HYPERPLASIA		ATYPICAL, MINIMAL
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	INFLAMMATION		CHRONIC, MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA		MINIMAL
STOMACH, FORESTOMACH		MINERAL		MINIMAL
STOMACH, GLANDULAR		MINERAL		MARKED
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION		MILD
THYROID GLAND				
Tissue Comment: Only one thyroid gland in slide set				
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

ANIMAL ID: 1080	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702165

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 1 X 1 mm; affects all lung lobes		
[FOCUS TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1080	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702165

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		ADENOMA	
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		EOSINOPHILIC FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	

ANIMAL ID: 1081	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD467
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702166

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

EYE
Tissue Comment: Right eye was cannibalized
HARDERIAN GLAND
Tissue Comment: Harderian gland (right) was cannibalized
SKIN
Tissue Comment: Facial skin partly cannibalized

ANIMAL ID: 1081	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD467
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702166
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EYE				
Tissue Comment: Only one eye with slide set				
HARDERIAN GLAND				
Tissue Comment: Only one Harderian gland with slide set				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
PRIMARY CAUSE OF DEATH		- UNDETERMINED		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1082	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD482
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702167

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

ABDOMEN	FLUID	RED
Observation Comment: approximately 15 ml [FLUID TGLS = TGL1]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
LYMPH NODE, MESENTERIC	MASS	DARK
Observation Comment: up to 8 X 4 X 2 mm [MASS TGLS = TGL6]		
PANCREAS	MASS NODULE	DARK DARK
Observation Comment: 20 X 10 X 5 mm Observation Comment: multiple; up to 1 X 1 X 1 mm [MASS TGLS = TGL5] [NODULE TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1082	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD482
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702167
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE	MAMMARY GLAND			
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 2-19, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-19, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-19, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MILD	
MESENTERY	ARTERIOLE	INFLAMMATION	CHRONIC, MARKED	
Tissue Comment: TGL 4-17, TGL 5-17, TGL 6-18				
[INFLAMMATION TGLS = TGL4-17, TGL6-18, TGL5-17, Gross Finding = LYMPH NODE, MESENTERIC, MASS, DARK]				
[INFLAMMATION TGLS = TGL4-17, TGL6-18, TGL5-17, Gross Finding = PANCREAS, MASS, DARK]				
[INFLAMMATION TGLS = TGL4-17, TGL6-18, TGL5-17, Gross Finding = PANCREAS, NODULE, DARK]				
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1083	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD408
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702168

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER

OBSERVATIONS

BRAIN	RIGHT, CEREBRUM	MASS	
Observation Comment: 7 X 7 X 6 mm; found at trim [MASS TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; affects all lobes [FOCUS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
ZYMBALS GLAND	RIGHT	ENLARGED	DARK
Observation Comment: 7 X 7 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1083	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD408
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702168
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN		GRANULAR CELL TUMOR	BENIGN	
Tissue Comment: TGL 3-3, TGL 3-4				
[GRANULAR CELL TUMOR TGLS = TGL3-3, Gross Finding = BRAIN, RIGHT, CEREBRUM, MASS,]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LACRIMAL GLAND		HYPERPLASIA	MILD	
[HYPERPLASIA TGLS = TGL 2-17, Gross Finding = ZYMBALS GLAND, RIGHT, ENLARGED, DARK]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
PANCREAS		MIXED TUMOR	BENIGN	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- BRAIN GRANULAR CELL TUMOR BENIGN			
Animal Note: Thinness, ruffled coat, and red nasal discharge were noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1084	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702169

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	DIFFUSE, PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	DIFFUSE, PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1084	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702169
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		FIBROSIS	MILD	
		MINERAL	MILD	
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
EPIDIDYMIS		HYOSPERMIA	MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DIFFUSE, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DIFFUSE, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
		EOSINOPHILIC FOCUS		
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MILD	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM	DEGENERATION	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness and ruffled coat were seen at necropsy, but did not correlate with any gross finding.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1085	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702170

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL1]			
LUNG	RIGHT	FOCUS	CAUDAL, RED
	RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: 8 X 6 mm			
Observation Comment: multiple; up to 2 X 2 mm			
[FOCUS TGLS = TGL4]			
[FOCUS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1085	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702170
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 1-8, TGL 2-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LUNG		HEMORRHAGE	MILD	
	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-7, TGL 4-7				
[HEMORRHAGE TGLS = TGL4-7, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, RED]				
[INFILTRATION CELLULAR TGLS = TGL3-7, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1086	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD508
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702171

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, AXILLARY	MASS	TAN
Tissue Comment: TGL1 correlated to mass seen clinically at transcription, see DR-58454-B-WJ-0050 Observation Comment: 37 X 36 X 24 mm [MASS TGLS = TGL1]			
TESTIS, LEFT		SMALL	DARK
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]			
TESTIS, RIGHT		SMALL	DARK
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1086	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD508
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702171
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX	BILATERAL	HYPERPLASIA	MILD	
EPIDIDYMIS		HYOSPERMIA	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
MAMMARY GLAND		FIBROADENOMA		
		INFLAMMATION	SUPPURATIVE, MINIMAL	
[FIBROADENOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, AXILLARY, MASS, TAN]				
PANCREAS	ACINAR CELL	ADENOMA		
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
STOMACH, GLANDULAR		MINERAL	MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
Tissue Comment: TGL 2-14, TGL 3-14				
[DEGENERATION TGLS = TGL3-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL, DARK]				
[DEGENERATION TGLS = TGL3-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL, DARK]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge, thinness, and ruffled coat were noted at necropsy, but did not correlate with any gross lesions.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1087	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702172

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND	RIGHT	ENLARGED	MOTTLED
Observation Comment: 20 X 10 X 10 mm [ENLARGED TGLS = TGL4]			
BLOOD VESSEL	MESENTERIC ARTERY	DILATION	DARK
Observation Comment: 3 X expected size; found at trim [DILATION TGLS = TGL5]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	DORSAL	NODULE	TAN
Observation Comment: 5 X 3 X 3 mm [NODULE TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1087	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702172

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 4-11, Gross Finding = ADRENAL GLAND, RIGHT, ENLARGED, MOTTLED]			
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL
Tissue Comment: TGL 2-8, TGL 3-18			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-18, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-18, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
MESENTERY	ARTERIOLE	POLYARTERITIS NODOSA	MARKED
[POLYARTERITIS NODOSA TGLS = TGL 5-19, Gross Finding = BLOOD VESSEL, MESENTERIC ARTERY, DILATION, DARK]			
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, DORSAL, NODULE, TAN]			
STOMACH, GLANDULAR		MINERAL	MILD

Animal Note: Pallor was noted at necropsy, but not correlated with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1088	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702173

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

LUNG	LEFT	FOCUS	WHITE
	RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; 1 X 1 mm; found at trim			
Observation Comment: 2 X 2 mm			
[FOCUS TGLS = TGL3]			
[FOCUS TGLS = TGL2]			
SKIN	RIGHT, CERVICAL	MASS	TAN
Observation Comment: 8 X 7 X 4 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1088	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702173

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLAND	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
	PELVIS, BILATERAL	INFLAMMATION	SUPPURATIVE, MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-7, TGL 3-6			
[INFILTRATION CELLULAR TGLS = TGL3-6, TGL2-7, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
[INFILTRATION CELLULAR TGLS = TGL3-6, TGL2-7, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, WHITE]			
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
PROSTATE		INFLAMMATION	CHRONIC, MODERATE
SEMINAL VESICLE		INFLAMMATION	CHRONIC, MILD
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, CERVICAL, MASS, TAN]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1089	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD505
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702174

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, JEJUNUM	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

MISSING

INTESTINE, SMALL, ILEUM

OBSERVATIONS

ADRENAL GLAND	RIGHT	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL6]			
INTESTINE, LARGE, CECUM			
Tissue Comment: partially cannibalized			
INTESTINE, SMALL, ILEUM			
Tissue Comment: AC: Ileum was able to be recovered for histological evaluation at trim.			
KIDNEY, LEFT		DEFORMITY ENLARGED	MOTTLED
Observation Comment: granular Observation Comment: 1.5 X expected size [DEFORMITY TGLS = TGL3] [ENLARGED TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY ENLARGED	MOTTLED
Observation Comment: granular Observation Comment: 1.5 X expected size			

ANIMAL ID: 1089	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD505
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702174
[DEFORMITY TGLS = TGL2]				
[ENLARGED TGLS = TGL4]				
MAMMARY GLAND				
Tissue Comment: Partially cannibalized				
NO CORRELATE				
SEMINAL VESICLE				
Observation Comment: 0.25 X expected size				
[SMALL TGLS = TGL1]				
BILATERAL				
TO OBSERVATION / MASS				
SMALL				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1089	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD505
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702174

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

ADRENAL GLAND	LYMPH NODE

OBSERVATIONS

ADRENAL GLAND

Tissue Comment: TGL 6-NCL, gross lesion could not be correlated as tissue was missing in slide set

HARDERIAN GLAND

Tissue Comment: Only one Harderian gland in the slide set

HEART

KIDNEY

Tissue Comment: TGL 2-8, TGL 3-8, TGL 4-8, TGL 5-8

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, MOTTLED]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, ENLARGED,]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, MOTTLED]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, ENLARGED,]

NO CORRELATE

NO CORRESPONDING LESION

[NO CORRESPONDING LESION TGLS = TGL6, Gross Finding = ADRENAL GLAND, RIGHT, SMALL,]

PANCREAS

SEMINAL VESICLE

ACINUS

HYPERPLASIA

ATROPHY

MINIMAL

MILD

[ATROPHY TGLS = TGL 1-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Partial cannibalization was seen at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1090	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD519
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702175
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS, LEFT	THYMUS	THYROID GLAND	
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	
ZYMBALS GLAND				
OBSERVATIONS				
KIDNEY, LEFT		DEFORMITY	PALE	
Observation Comment: granular				
[DEFORMITY TGLS = TGL5]				
KIDNEY, RIGHT		DEFORMITY	PALE	
Observation Comment: granular				
[DEFORMITY TGLS = TGL4]				
LIVER	LOBE, LEFT	CYST	CLEAR	
Observation Comment: 1 mm diameter				
[CYST TGLS = TGL1]				
LUNG	LOBE, LEFT, LOBE, MIDDLE, RIGHT	FOCUS	WHITE	
Observation Comment: multiple; up to 5 X 3 mm; right caudal lobe				
[FOCUS TGLS = TGL2]				
NO CORRELATE		TO OBSERVATION / MASS		
SEMINAL VESICLE	BILATERAL	SMALL	DARK	
Observation Comment: 0.5 X expected size				
[SMALL TGLS = TGL6]				
TESTIS, RIGHT		SMALL	TAN	
Observation Comment: 0.5 X expected size				
[SMALL TGLS = TGL3]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1090	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD519
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702175
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART	ATRIUM	THROMBUS		
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LOBE, LEFT, LOBE, MIDDLE, RIGHT, FOCUS, WHITE]				
SEMINAL VESICLE		ATROPHY	MODERATE	
[ATROPHY TGLS = TGL 6-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL, DARK]				
SPLEEN	WHITE PULP	ATROPHY	MILD	
TESTIS	GERMINAL EPITHELIUM	DEGENERATION	MARKED	
[DEGENERATION TGLS = TGL 3-14, Gross Finding = TESTIS, RIGHT, SMALL, TAN]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, pallor, and ruffled coat were noted at necropsy, but did not correlate with any necropsy findings.				

ANIMAL ID: 1091	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702176

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
ZYMBALS GLAND			

OBSERVATIONS

ADRENAL GLAND	RIGHT	ENLARGED	RED
Observation Comment: 17 X 14 X 6 mm [ENLARGED TGLS = TGL2]			
URINARY BLADDER	LUMEN	UROLITH	WHITE
Observation Comment: 10 X 9 X 4 mm [UROLITH TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1091	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702176

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 2-11, Gross Finding = ADRENAL GLAND, RIGHT, ENLARGED, RED]			
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
URINARY BLADDER		HEMORRHAGE	MINIMAL
		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = URINARY BLADDER, LUMEN, UROLITH, WHITE]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1092	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD595
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702177

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1092	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD595
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702177

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA	HYPERPLASIA	FOCAL, MINIMAL
HEART	CARDIOMYOPATHY	MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 1-8, TGL 2-8		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DARK]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DARK]		
LIVER	EOSINOPHILIC FOCUS	
	FATTY CHANGE	FOCAL, MINIMAL
PROSTATE	INFLAMMATION	CHRONIC, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1093	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD402
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702178

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1093	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD402
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702178

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

AORTA	MINERAL	MARKED
EPIDIDYMIS	HYOSPERMIA	MILD
HEART	MINERAL	MILD
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MARKED

Tissue Comment: TGL 1-8, TGL 2-8

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]

LIVER		CLEAR CELL FOCUS	
LUNG	INTERSTITIUM	MINERAL	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SPLEEN	WHITE PULP	ATROPHY	MARKED
STOMACH, GLANDULAR		MINERAL	MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Pallor, thinness, red nasal discharge, red ocular discharge, and ruffled coat were seen at necropsy, but not correlated with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1094 GENERATION: F1	TRT#: F1-2 SELECTION: F1 Core Animals	DOSE: 30 mg/L	SEX: Male DISP: Found Dead	REMOVAL DAY: SD101 HISTO: 1702179
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND		
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		NECROSIS	MILD	
SPLEEN	WHITE PULP	ATROPHY	MARKED	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1095	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD616
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702180

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1095	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD616
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702180
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
EPIDIDYMIS		HYOSPERMIA	MINIMAL	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART	ENDOCARDIUM, SCHWANN CELL	HYPERPLASIA	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LYMPH NODE, MEDIASTINAL		INFLAMMATION	GRANULOMATOUS, MILD	
NOSE	RESPIRATORY EPITHELIUM	METAPLASIA	SQUAMOUS, MILD	
TESTIS	GERMINAL EPITHELIUM	DEGENERATION	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat, red ocular discharge, bilateral sore tail, and thinness were seen at necropsy, but not correlated with any specific necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1096	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD389
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702181

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL1]	
KIDNEY, RIGHT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL2]	
NO CORRELATE	TO OBSERVATION / MASS

ANIMAL ID: 1096	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD389
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702181
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
Tissue Comment: TGL 1-17, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
Animal Note: Red discharges from eyes and nose were seen at necropsy, but did not correlate with any gross pathology findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1097	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD455
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702182

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

NOT PRESENT

EYE

OBSERVATIONS

HARDERIAN GLAND

Tissue Comment: Part of left and right Harderian glands were missing; cannibalized

NO CORRELATE

TO OBSERVATION / MASS

NOSE

Tissue Comment: Nasal bones of right maxilla were partly cannibalized

SKIN

LEFT, AXILLARY

MASS

TAN

Tissue Comment: Skin over right side of face was missing; cannibalized

Observation Comment: 60 X 40 X 12 mm

[MASS TGLS = TGL1]

TONGUE

Tissue Comment: Part of tongue cannibalized.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1097	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD455
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702182
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
EYE	LYMPH NODE			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
HARDERIAN GLAND				
Tissue Comment: Only one Harderian gland in slide set				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
SKIN		FIBROMA		
[FIBROMA TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, AXILLARY, MASS, TAN]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- SKIN FIBROMA			
Animal Note: Partial cannibalization was noted at necropsy, but did not correlate with any necropsy finding.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1098	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD540
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702183

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
THYROID GLAND	BILATERAL	ENLARGED	
Observation Comment: 1.5 X expected size [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1098	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD540
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702183
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
AORTA		MINERAL	MINIMAL	
BRAIN	MENINGES	INFLAMMATION	CHRONIC, MINIMAL	
EPIDIDYMIS		HYPOSERMIA	MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MINIMAL	
THYROID GLAND	C-CELL, BILATERAL	ADENOMA		
[ADENOMA TGLS = TGL 3-11, Gross Finding = THYROID GLAND, BILATERAL, ENLARGED,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge and thinness were noted at necropsy, but not correlated with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1099	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD448
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702184

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, PAW	NODULE	WHITE
Observation Comment: 3 X 2 X 1 mm [NODULE TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1099	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD448
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702184
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
AORTA		MINERAL	MODERATE	
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		MINERAL	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-17, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MILD	
LUNG	INTERSTITIUM	MINERAL	MILD	
SKIN		PAPILLOMA, SQUAMOUS		
[PAPILLOMA, SQUAMOUS TGLS = TGL 2-18, Gross Finding = SKIN, LEFT, PAW, NODULE, WHITE]				
STOMACH, GLANDULAR		MINERAL	MARKED	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Soiled coat, soiled anus, ocular discharge, and thinness were noted at necropsy, but were not correlated with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1100	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702185

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, THORACIC	MASS	MOTTLED
Observation Comment: 45 X 35 X 25 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	
Observation Comment: 68 X 16 X 6 mm			
[ENLARGED TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1100	TRT#: F1-2	DOSE: 30 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702185

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	TESTIS	THYMUS	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	MULTIPLE
		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
SKELETAL MUSCLE		SARCOMA	
[SARCOMA TGLS = TGL 1-17, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 2-18, Gross Finding = SPLEEN, ENLARGED,]			
STOMACH, GLANDULAR		MINERAL	MODERATE
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Pallor was noted at necropsy, but did not correlate with any gross finding.

ANIMAL ID: 1101	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702256

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

ADRENAL GLAND	RIGHT	ENLARGED	MOTTLED
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1101	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702256
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
		PHEOCHROMOCYTOMA	BENIGN	
[PHEOCHROMOCYTOMA TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, RIGHT, ENLARGED, MOTTLED]				
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
Tissue Comment: TGL 2-8, TGL 3-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-17, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MODERATE	
STOMACH, GLANDULAR		MINERAL	MILD	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1102	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD392
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702257
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND		
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1103	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD536
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702258

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

ADRENAL GLAND	BILATERAL	ENLARGED	TAN
Observation Comment: 2 X expected size; found at trim [ENLARGED TGLS = TGL6]			
KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LYMPH NODE, MANDIBULAR		ENLARGED	TAN
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]			
SKIN	LEFT, AXILLARY	MASS	MOTTLED
Observation Comment: 100 X 85 X 60 mm; accounts for mass seen clinically, only one mass present [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1103	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD536
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702258
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MODERATE	
[HYPERPLASIA TGLS = TGL 6-11, Gross Finding = ADRENAL GLAND, BILATERAL, ENLARGED, TAN]				
EPIDIDYMIS		HYOSPERMIA	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LYMPH NODE, MANDIBULAR		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, TAN]				
SEMINAL VESICLE		ATROPHY	MODERATE	
[ATROPHY TGLS = TGL 2-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
SKIN		SCHWANNOMA	MALIGNANT	
[SCHWANNOMA TGLS = TGL 1-17, Gross Finding = SKIN, LEFT, AXILLARY, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, FORESTOMACH		ULCER	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- SKIN SCHWANNOMA MALIGNANT			
Animal Note: Red discharge (nose), thinness, and ruffled coat were noted at necropsy but did not correlate with any nercopsy findings.				

ANIMAL ID: 1104	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702259

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1104	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702259

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1105	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD582
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702260

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
TESTIS, RIGHT		SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL1]			
ZYMBALS GLAND	LEFT	MASS	MOTTLED
Observation Comment: 25 X 20 X 15 mm; ulcerated [MASS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1105	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD582
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702260

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS
EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE
AORTA		MINERAL	MILD
EPIDIDYMIS		HYOSPERMIA	MODERATE
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
PROSTATE		INFLAMMATION	CHRONIC, MARKED
SEMINAL VESICLE		INFLAMMATION	CHRONIC, MODERATE
SPLEEN	WHITE PULP	ATROPHY	MODERATE
STOMACH, GLANDULAR		MINERAL	MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE
[DEGENERATION TGLS = TGL 1-14, Gross Finding = TESTIS, RIGHT, SMALL,]			
ZYMBALS GLAND		ADENOMA	
[ADENOMA TGLS = TGL 4-17, Gross Finding = ZYMBALS GLAND, LEFT, MASS, MOTTLED]			

CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY
	- ZYMBALS GLAND ADENOMA

Animal Note: Ruffled coat, thinness, and pallor were confirmed at necropsy, but not correlated with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1106	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD507
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702261

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		CYST DEFORMITY	CLEAR
Observation Comment: 12 X 11 X 4 mm			
Observation Comment: granular			
[CYST TGLS = TGL4]			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		CYST DEFORMITY	CLEAR
Observation Comment: 3 X 3 X 1 mm			
Observation Comment: granular			
[CYST TGLS = TGL3]			
[DEFORMITY TGLS = TGL1]			
LUNG	LEFT	FOCUS	DARK
	RIGHT	FOCUS	DARK
Observation Comment: up to 5 X 5 X 3 mm; found at trim			
Observation Comment: up to 6 X 5 X 4 mm; all right side lobes affected; found at trim			
[FOCUS TGLS = TGL5]			
[FOCUS TGLS = TGL6]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1106	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD507
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702261
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	PREPUTIAL GLAND			
OBSERVATIONS				
ADRENAL GLAND				
Tissue Comment: Only one adrenal medulla in slide set				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, TGL4-8, TGL2-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, TGL4-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, TGL4-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, TGL4-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG		HEMORRHAGE	MILD	
	INTERSTITIUM	INFLAMMATION	CHRONIC, MINIMAL	
Tissue Comment: TGL 5-6, TGL 6-7				
[HEMORRHAGE TGLS = TGL5-6, TGL6-7, Gross Finding = LUNG, LEFT, FOCUS, DARK]				
[HEMORRHAGE TGLS = TGL5-6, TGL6-7, Gross Finding = LUNG, RIGHT, FOCUS, DARK]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Animal Note: Thinness, ruffled coat, and nasal discharge were noted at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1107	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD276
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702262

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART	CARDIOMYOPATHY	MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL

PRIMARY CAUSE OF DEATH - UNDETERMINED

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1108	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702263

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL6]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL5]			
SKIN	LEFT, PAW	CRUST	TAN
	RIGHT, ABDOMINAL	CRUST	TAN
	RIGHT, PAW	CRUST	TAN
	LEFT, DORSAL	MASS	TAN
Observation Comment: hind; 10 X 10 mm			
Observation Comment: 6 X 5 mm			
Observation Comment: hind; 6 X 6 mm			
Observation Comment: 23 X 20 X 10 mm; ulcerated			
[CRUST TGLS = TGL3]			
[CRUST TGLS = TGL1]			
[CRUST TGLS = TGL4]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1108	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702263

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 5-8, TGL 6-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER		BASOPHILIC FOCUS	
		CLEAR CELL FOCUS	MULTIPLE
SKIN	DERMIS	INFLAMMATION	CHRONIC, MODERATE
		KERATOACANTHOMA	

Tissue Comment: TGL 1-17, TGL 2-18, TGL 3-19, TGL 4-20

[INFLAMMATION TGLS = TGL4-20, TGL3-19, TGL1-17, Gross Finding = SKIN, LEFT, PAW, CRUST, TAN]

[INFLAMMATION TGLS = TGL4-20, TGL3-19, TGL1-17, Gross Finding = SKIN, RIGHT, ABDOMINAL, CRUST, TAN]

[INFLAMMATION TGLS = TGL4-20, TGL3-19, TGL1-17, Gross Finding = SKIN, RIGHT, PAW, CRUST, TAN]

[KERATOACANTHOMA TGLS = TGL2-18, Gross Finding = SKIN, LEFT, DORSAL, MASS, TAN]

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1109	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702264

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
SKIN	LEFT, FORELIMB	MASS	TAN
Observation Comment: 15 X 12 X 5 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1109	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702264
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 2-17, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL	
SKIN	DERMIS	INFLAMMATION	GRANULOMATOUS, MODERATE	
[INFLAMMATION TGLS = TGL 1-18, Gross Finding = SKIN, LEFT, FORELIMB, MASS, TAN]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1110	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD580
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702265

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]		
KIDNEY, RIGHT	CYST	CLEAR
Observation Comment: 10 X 8 X 5 mm Observation Comment: granular; found at trim [CYST TGLS = TGL1] [DEFORMITY TGLS = TGL2]	DEFORMITY	PALE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1110	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD580
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702265
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY		MARKED	
Tissue Comment: TGL 1-17, TGL 2-17, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-17, TGL3-8, TGL2-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-17, TGL3-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-17, TGL3-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
PROSTATE	INFLAMMATION		CHRONIC, MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1111	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702266

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

INTESTINE, LARGE, CECUM		THICK	WHITE
Observation Comment: found at trim [THICK TGLS = TGL10]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LUNG	CRANIAL LEFT	FOCUS FOCUS FOCUS	WHITE WHITE CAUDAL, WHITE
Observation Comment: 6 X 2 mm Observation Comment: multiple; up to 4 X 4 mm Observation Comment: 2 X 2 mm [FOCUS TGLS = TGL8] [FOCUS TGLS = TGL7] [FOCUS TGLS = TGL9]			
NO CORRELATE		TO OBSERVATION / MASS	
PREPUTIAL GLAND	BILATERAL	SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1111	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702266
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL6]				
SKIN	DORSAL		MASS	MOTTLED
Observation Comment: 9 X 6 X 4 mm [MASS TGLS = TGL1]				
TESTIS, LEFT			SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL5]				
TESTIS, RIGHT			SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1111	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702266

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	STOMACH, FORESTOMACH	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

AORTA		MINERAL	MILD
EPIDIDYMIS		HYOSPERMIA	MINIMAL
HEART		CARDIOMYOPATHY	MILD
		MINERAL	MINIMAL
INTESTINE, LARGE, CECUM		MINERAL	MARKED
[MINERAL TGLS = TGL 10-10, Gross Finding = INTESTINE, LARGE, CECUM, THICK, WHITE]			
ISLETS, PANCREATIC		ADENOMA	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE, BILATERAL	HYPERPLASIA	ATYPICAL, MINIMAL
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	INTERSTITIUM	MINERAL	MODERATE
Tissue Comment: TGL 7-6, TGL 8-7, TGL 9-7			
[MINERAL TGLS = TGL9-7, TGL8-7, TGL7-6, Gross Finding = LUNG, CRANIAL, FOCUS, WHITE]			
[MINERAL TGLS = TGL9-7, TGL8-7, TGL7-6, Gross Finding = LUNG, FOCUS, CAUDAL, WHITE]			
[MINERAL TGLS = TGL9-7, TGL8-7, TGL7-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
PREPUTIAL GLAND		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 6-NCL, Gross Finding = PREPUTIAL GLAND, BILATERAL, SMALL,]			
SKIN		PAPILLOMA, SQUAMOUS	
[PAPILLOMA, SQUAMOUS TGLS = TGL 1-17, Gross Finding = SKIN, DORSAL, MASS, MOTTLED]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1111	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702266
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, GLANDULAR		MINERAL	MARKED	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
Tissue Comment: TGL 4-14, TGL 5-14				
[DEGENERATION TGLS = TGL4-14, TGL5-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL4-14, TGL5-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge was seen at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1112	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702267

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

AORTA	DILATION	WHITE
Observation Comment: 8 mm diameter [DILATION TGLS = TGL5]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1112	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702267

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
AORTA		MINERAL	MARKED
[MINERAL TGLS = TGL 5-18, Gross Finding = AORTA, DILATION, WHITE]			
EPIDIDYMIS		HYOSPERMIA	MILD
ISLETS, PANCREATIC		ADENOMA	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL
Tissue Comment: TGL 3-8, TGL 4-17			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LUNG	INTERSTITIUM	MINERAL	MILD
STOMACH, FORESTOMACH		MINERAL	MINIMAL
STOMACH, GLANDULAR		MINERAL	MILD
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MINIMAL
Tissue Comment: TGL 1-14, TGL 2-14			
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]			
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]			

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Nasal and ocular discharge, stained anus, ruffled coat, and pallor were noted at necropsy, but were not correlated with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1113	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD583
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702268

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, THORACIC	MASS	TAN
Observation Comment: 45 X 45 X 10 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1113	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD583
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702268
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
AORTA		MINERAL	MILD	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-18				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-18, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-18, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
SKIN		FIBROMA		
[FIBROMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, THORACIC, MASS, TAN]				
STOMACH, GLANDULAR		MINERAL	MODERATE	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red ocular and nasal discharges, and ruffled coat, were seen at necropsy, but did not correlate with any specific necropsy findings.				

ANIMAL ID: 1114	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD557
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702269

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

INTESTINE, LARGE, COLON		
Tissue Comment: Digesta in small intestine black and in colon dark red		
INTESTINE, SMALL, DUODENUM		
Tissue Comment: Digesta in small intestine black and in colon dark red		
INTESTINE, SMALL, ILEUM		
Tissue Comment: Digesta in small intestine black and in colon dark red		
INTESTINE, SMALL, JEJUNUM		
Tissue Comment: Digesta in small intestine black and in colon dark red		
KIDNEY, LEFT	CYST	CLEAR
	DEFORMITY	PALE
Observation Comment: 6 mm diameter		
Observation Comment: granular		
[CYST TGLS = TGL5]		
[DEFORMITY TGLS = TGL3]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular		
[DEFORMITY TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1114	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD557
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702269
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]				
TESTIS, RIGHT		SMALL		
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]				
THORAX		ACCUMULUATION		CLEAR
Observation Comment: approximately 3 ml [ACCUMULUATION TGLS = TGL6]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1114	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD557
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702269

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	HARDERIAN GLAND	HEART
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

EPIDIDYMIS		HYOSPERMIA	MARKED
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
INTESTINE, LARGE, CECUM		MINERAL	MARKED
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 3-8, TGL 4-8, TGL 5-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER	BILE DUCT	HYPERPLASIA	MILD
PANCREAS	ACINAR CELL	ADENOMA	
SPLEEN	WHITE PULP	ATROPHY	MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE

Tissue Comment: TGL 1-14, TGL 2-14

[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]

[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Thinness, pallor, red nasal discharge, and red anal discharge were noted at necropsy, but did not correlate with any gross findings.

ANIMAL ID: 1115	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD229
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702270

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

ANIMAL ID: 1115	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD229
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702270
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		NECROSIS	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Discharges (red) from eyes and nose/snout were noted at necropsy, but did not correspond to any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1116	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD427
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702271

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

EYE	LEFT	DISCOLORATION	RED
[DISCOLORATION TGLS = TGL2]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1116	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD427
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702271
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
AORTA		MINERAL	MARKED	
EYE	ANTERIOR CHAMBER	HEMORRHAGE	MILD	
	CORNEA	INFLAMMATION	CHRONIC, MILD	
[HEMORRHAGE TGLS = TGL 2-13, Gross Finding = EYE, LEFT, DISCOLORATION, RED]				
[INFLAMMATION TGLS = TGL 2-13, Gross Finding = EYE, LEFT, DISCOLORATION, RED]				
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-17, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		FATTY CHANGE	FOCAL, MILD	
LUNG	INTERSTITIUM	MINERAL	MILD	
PANCREAS	ACINUS	HYPERPLASIA	MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MODERATE	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness was seen at necropsy, but did not correlate with any gross finding.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1117	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702272

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1117	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702272
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MINIMAL	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1118	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD557
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702273

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

AORTA		DILATION	
Observation Comment: 2 X expected size; found at trim [DILATION TGLS = TGL4]			
KIDNEY, LEFT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PROSTATE	VENTRAL	DISCOLORATION	DARK
Observation Comment: 8 X 8 mm; found at trim [DISCOLORATION TGLS = TGL5]			
SKIN	VENTRAL, CERVICAL	FLUID	CLEAR
Observation Comment: 1 ml; clear gelatinous fluid [FLUID TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1118	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD557
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702273
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL GLAND				
Tissue Comment: Only one adrenal gland in slide set				
AORTA		MINERAL	MODERATE	
[MINERAL TGLS = TGL 4-10, Gross Finding = AORTA, DILATION,]				
EPIDIDYMIS		HYOSPERMIA	MILD	
EYE	CORNEA	INFLAMMATION	CHRONIC, MODERATE	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MINIMAL	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]				
LIVER	BILE DUCT	HYPERPLASIA	MILD	
LUNG	INTERSTITIUM	MINERAL	MILD	
PROSTATE		INFLAMMATION	CHRONIC, MINIMAL	
[INFLAMMATION TGLS = TGL 5-17, Gross Finding = PROSTATE, VENTRAL, DISCOLORATION, DARK]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, GLANDULAR		MINERAL	MODERATE	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness and ruffled coat were seen at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1119	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702274

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 3 mm; all lung lobes affected [FOCUS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 10 X 8 X 5 mm [ENLARGED TGLS = TGL3]			
SKIN	RIGHT, INGUINAL	MASS	TAN
Observation Comment: 25 X 25 X 15 mm [MASS TGLS = TGL1]			
THYROID GLAND	BILATERAL	ENLARGED	
Observation Comment: 2 X expected size; found at trim [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1119	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702274

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
SKIN		FIBROMA	
[FIBROMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, INGUINAL, MASS, TAN]			
THYROID GLAND	C-CELL	ADENOMA	MULTIPLE
[ADENOMA TGLS = TGL 4-11, Gross Finding = THYROID GLAND, BILATERAL, ENLARGED,]			

Animal Note: Pallor, ruffled coat, and thinness were noted at necropsy, but did not correlate with any of the gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1120	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702275

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
THORAX		ACCUMULUATION	CLEAR
Observation Comment: approximately 2 ml [ACCUMULUATION TGLS = TGL3]			
THYROID GLAND	BILATERAL	ENLARGED	TAN
Observation Comment: 1.5 X expected size [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1120	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702275
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-17, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MODERATE	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
THYROID GLAND		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = THYROID GLAND, BILATERAL, ENLARGED, TAN]				
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge and ruffled coat were noted at necropsy, and did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1121	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD632
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702276

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LYMPH NODE, MEDIASTINAL		ENLARGED	RED
Observation Comment: 4 X expected size [ENLARGED TGLS = TGL4]			
PENIS		PROLAPSE	
Observation Comment: 9 mm; prolapsed out of prepuce by 9 mm [PROLAPSE TGLS = TGL1]			
THORAX		ACCUMULUATION	PINK
Observation Comment: approximately 2 ml [ACCUMULUATION TGLS = TGL5]			
URINARY BLADDER	LUMEN	ACCUMULUATION	YELLOW
Observation Comment: approximately 0.5 ml; mucoid, congealed material in bladder lumen [ACCUMULUATION TGLS = TGL6]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1121	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD632
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702276
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
AORTA		INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-18				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-18, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-18, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS		
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MODERATE	
LYMPH NODE, MEDIASTINAL		CONGESTION	MODERATE	
[CONGESTION TGLS = TGL 4-19, Gross Finding = LYMPH NODE, MEDIASTINAL, ENLARGED, RED]				
PENIS		PROLAPSE	MODERATE	
[PROLAPSE TGLS = TGL 1-17, Gross Finding = PENIS, PROLAPSE,]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1122	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD516
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702277

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1122	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD516
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702277
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		ADENOMA		
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-17, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1123	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702278

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, LARGE, CECUM Observation Comment: 2 mm [THICK TGLS = TGL5]	THICK	PALE
KIDNEY, LEFT Observation Comment: granular [DEFORMITY TGLS = TGL4]	DEFORMITY	PALE
KIDNEY, RIGHT Observation Comment: granular [DEFORMITY TGLS = TGL3]	DEFORMITY	PALE
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]	SMALL	
TESTIS, RIGHT Observation Comment: 0,25 X expected size [SMALL TGLS = TGL1]	SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1123	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702278
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	STOMACH, FORESTOMACH	THYMUS	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
AORTA		MINERAL	MODERATE	
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MODERATE	
[MINERAL TGLS = TGL 5-10, Gross Finding = INTESTINE, LARGE, CECUM, THICK, PALE]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MINIMAL	
LYMPH NODE, MANDIBULAR		INFLAMMATION	SUPPURATIVE, MINIMAL	
PITUITARY GLAND	PARS INTERMEDIA	ADENOMA		
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
Tissue Comment: TGL 1-14, TGL 2-14				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1123	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702278

CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Ruffled coat, pallor, thinness, red nasal discharge, and sof feces were noted at necropsy, but not correlated with any of the necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1124	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702279

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

AORTA	THICK	FIRM
Observation Comment: 2 mm [THICK TGLS = TGL5]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1124	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702279
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	LYMPH NODE, MESENTERIC			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
AORTA		MINERAL	MODERATE	
[MINERAL TGLS = TGL 5-10, Gross Finding = AORTA, THICK, FIRM]				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MINIMAL	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	MINERAL	MILD	
PREPUTIAL GLAND				
Tissue Comment: Only one preputial gland in slide set				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, FORESTOMACH		MINERAL	MODERATE	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
Tissue Comment: TGL 3-14, TGL 4-14				
[DEGENERATION TGLS = TGL3-14, TGL4-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL3-14, TGL4-14, Gross Finding = TESTIS, RIGHT, SMALL,]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1124	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702279
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, pallor, and red nasal discharge were noted at necropsy, but not correlated with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1125	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702280

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	MOTTLED
Observation Comment: 9 X 7 X 5 mm [ENLARGED TGLS = TGL4]		
SPLEEN	ENLARGED	DARK
Observation Comment: 72 X 22 X 9 mm [ENLARGED TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1125	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702280
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
ADRENAL GLAND	LYMPH NODE			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		FATTY CHANGE	FOCAL, MODERATE	
LUNG		LYMPHOMA	MALIGNANT	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
PROSTATE		INFLAMMATION	CHRONIC, MINIMAL	
SPLEEN		LYMPHOMA	MALIGNANT	
[LYMPHOMA TGLS = TGL 1-17, Gross Finding = SPLEEN, ENLARGED, DARK]				
CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Pallor, thinness, and tarry feces were confirmed at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1126	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702281

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE			

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		FATTY CHANGE	FOCAL, MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1127	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD165
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702282

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

BRAIN		DISCOLORATION	DARK, DIFFUSE
Observation Comment: meninges; affected all dorsal surface			
[DISCOLORATION TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	DORSAL, CERVICAL	CRUST	DARK
Observation Comment: 30 X 30 mm			
[CRUST TGLS = TGL2]			

ANIMAL ID: 1127	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD165
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702282
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN	NO CORRESPONDING LESION			
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = BRAIN, DISCOLORATION, DARK, DIFFUSE]				
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY			MINIMAL
SKIN	ULCER			MILD
[ULCER TGLS = TGL 2-17, Gross Finding = SKIN, DORSAL, CERVICAL, CRUST, DARK]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Thinness and red nasal discharge were seen at necropsy, but did not correlate with any specific necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1128	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD425
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702283

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, THORACIC	MASS	MOTTLED
	LEFT, FACE	NODULE	DARK
Observation Comment: 5 X 5 X 5 mm; filled with green fluid			
Observation Comment: 3 X 2 X 2 mm [MASS TGLS = TGL1] [NODULE TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1128	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD425
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702283

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX	HYPERPLASIA	FOCAL, MINIMAL
HEART	CARDIOMYOPATHY	MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MILD
	INFARCT	MILD

Tissue Comment: TGL 2-8, TGL 3-17

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]

LIVER	NECROSIS	MILD
SKIN	NO CORRESPONDING LESION	

Tissue Comment: TGL 1-NCL, TGL 4-NCL

[NO CORRESPONDING LESION TGLS = TGL4-NCL, Gross Finding = SKIN, LEFT, FACE, NODULE, DARK]

[NO CORRESPONDING LESION TGLS = TGL1-NCL, Gross Finding = SKIN, LEFT, THORACIC, MASS, MOTTLED]

PRIMARY CAUSE OF DEATH - UNDETERMINED

Animal Note: Red discharge and abnormality were noted in left eye at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1129	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD229
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702284

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE	

OBSERVATIONS

KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1129	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD229
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702284
PRIMARY CAUSE OF DEATH		- UNDETERMINED		
Animal Note: Red discharge from nose and sore forelimb (left) were noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1130	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702285

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	MOTTLED
Observation Comment: 8 X 5 X 3 mm [ENLARGED TGLS = TGL3]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1130	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702285
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
TESTIS	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
AORTA		MINERAL	MODERATE	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
	PARS DISTALIS	HYPERPLASIA	MINIMAL	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
PROSTATE		INFLAMMATION	CHRONIC, MILD	
SEMINAL VESICLE		INFLAMMATION	CHRONIC, MODERATE	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MILD	
THYROID GLAND	C-CELL	ADENOMA		
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
- PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Pallor, ruffled coat, and thinness were noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1131	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702286

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		CYST DEFORMITY	CLEAR, FOUR PALE
Observation Comment: up to 3 X 3 mm			
Observation Comment: granular			
[CYST TGLS = TGL2]			
[DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LUMBAR	MASS	
Observation Comment: multicolored; 20 X 17 X 11 mm; ulcerated			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1131	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD606
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702286
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-17, TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL2-17, TGL3-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR, FOUR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL2-17, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL2-17, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
SKIN		KERATOACANTHOMA		
[KERATOACANTHOMA TGLS = TGL 1-18, Gross Finding = SKIN, LUMBAR, MASS,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge and pallor were seen at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1132	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD483
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702287

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, LARGE, COLON	DISCOLORATION	WHITE
Observation Comment: thickened		
[DISCOLORATION TGLS = TGL5]		
KIDNEY, LEFT	DEFORMITY	
Observation Comment: granular		
[DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	
Observation Comment: granular		
[DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
PROSTATE	DISCOLORATION	MOTTLED
[DISCOLORATION TGLS = TGL1]		
STOMACH, GLANDULAR	DISCOLORATION	DARK
Observation Comment: associated with blood in the stomach/intestines		
[DISCOLORATION TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1132	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD483
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702287
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE	
AORTA		MINERAL	MODERATE	
EPIDIDYMIS		HYOSPERMIA	MILD	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MINIMAL	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
[MINERAL TGLS = TGL 5-9, Gross Finding = INTESTINE, LARGE, COLON, DISCOLORATION, WHITE]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MILD	
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL	
PROSTATE		HEMORRHAGE	MILD	
[HEMORRHAGE TGLS = TGL 1-16, Gross Finding = PROSTATE, DISCOLORATION, MOTTLED]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, FORESTOMACH		MINERAL	MILD	
STOMACH, GLANDULAR		MINERAL	MODERATE	
[MINERAL TGLS = TGL 4-9, Gross Finding = STOMACH, GLANDULAR, DISCOLORATION, DARK]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1132

TRT#: F1-3

DOSE: 100 mg/L

SEX: Male

REMOVAL DAY: SD483

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702287

Animal Note: Thinness, pallor, brown anal stain, and red ocular discharge were noted at necropsy, but did not correlate with any specific necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1133	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702288

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	MOTTLED
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL4]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
LYMPH NODE, MANDIBULAR		CYST ENLARGED	CLEAR
Observation Comment: 8 X 5 X 3 mm; found at trim Observation Comment: 4 X expected size; found at trim [CYST TGLS = TGL6] [ENLARGED TGLS = TGL5]			
SKIN	DORSAL	NODULE	TAN
Observation Comment: 5 X 4 X 4 mm [NODULE TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1133	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702288

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA	BILATERAL	PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 4-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, MOTTLED]			
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 1-8, TGL 2-18			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
LYMPH NODE, MANDIBULAR	LYMPHATIC, SINUS	ECTASIA	MILD
		INFLAMMATION	SUPPURATIVE, MILD
Tissue Comment: TGL 5-17, TGL 6-17			
[ECTASIA TGLS = TGL5-17, TGL6-17, Gross Finding = LYMPH NODE, MANDIBULAR, CYST, CLEAR]			
[ECTASIA TGLS = TGL5-17, TGL6-17, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED,]			
[INFLAMMATION TGLS = TGL5-17, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED,]			
SKIN		EPIDERMAL INCLUSION CYST	
[EPIDERMAL INCLUSION CYST TGLS = TGL 3-17, Gross Finding = SKIN, DORSAL, NODULE, TAN]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1134	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD634
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702289

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

ABDOMEN	ACCUMULUATION	RED
Observation Comment: approximately 10 ml [ACCUMULUATION TGLS = TGL5]		
KIDNEY, LEFT	DEFORMITY	MOTTLED
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	MOTTLED
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
LYMPH NODE, MESENTERIC	ENLARGED	MOTTLED
Observation Comment: 120 X 100 X 75 mm; accounts for distended abdomen; composed of multiple brown fluid filled cavities [ENLARGED TGLS = TGL6]		
TESTIS, LEFT	SMALL	PALE
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL4]		
TESTIS, RIGHT	SMALL	PALE
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL3]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1134	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD634
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702289
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	MAMMARY GLAND	
NOSE	PANCREAS	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE	LYMPH NODE, MESENTERIC			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
EPIDIDYMIS		HYOSPERMIA	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, MOTTLED]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, MOTTLED]				
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MINIMAL	
MESENTERY		SCHWANNOMA	MALIGNANT	
[SCHWANNOMA TGLS = TGL 6-9, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, MOTTLED]				
PARATHYROID GLAND		HYPERPLASIA	FOCAL, MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, GLANDULAR		MINERAL	MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	
Tissue Comment: TGL 3-14, TGL 4-14				
[ATROPHY TGLS = TGL3-14, TGL4-14, Gross Finding = TESTIS, LEFT, SMALL, PALE]				
[ATROPHY TGLS = TGL3-14, TGL4-14, Gross Finding = TESTIS, RIGHT, SMALL, PALE]				
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
	- MESENTERY SCHWANNOMA MALIGNANT			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1135	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702290

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LYMPH NODE, MEDIASTINAL		ENLARGED	RED, TWO
Observation Comment: 4 X expected size [ENLARGED TGLS = TGL4]			
PANCREAS		NODULE	TAN, THREE
Observation Comment: 4 X 4 X 3 mm [NODULE TGLS = TGL5]			
SALIVARY GLANDS	LEFT	MASS	WHITE
Observation Comment: 10 X 8 X 4 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1135	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702290

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART	CARDIOMYOPATHY	MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MARKED

Tissue Comment: TGL 2-8, TGL 3-8

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]

LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
LYMPH NODE, MEDIASTINAL		CONGESTION	MILD

[CONGESTION TGLS = TGL 4-18, Gross Finding = LYMPH NODE, MEDIASTINAL, ENLARGED, RED, TWO]

PANCREAS	ACINUS	HYPERPLASIA	MODERATE

[HYPERPLASIA TGLS = TGL 5-17, Gross Finding = PANCREAS, NODULE, TAN, THREE]

SALIVARY GLAND	NO CORRESPONDING LESION	

[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = SALIVARY GLANDS, LEFT, MASS, WHITE]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1136	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702291

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY MASS	PALE TAN
Observation Comment: granular			
Observation Comment: 10 X 6 X 2 mm			
[DEFORMITY TGLS = TGL4]			
[MASS TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
SKIN	VENTRAL, ABDOMINAL	MASS	GREEN
Observation Comment: 30 X 17 X 10 mm; overlying and incorporating both preputial glands.			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1136	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702291

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY	RENAL TUBULE	ADENOMA	
		CHRONIC PROGRESSIVE NEPHROPATHY	MILD

Tissue Comment: TGL 2-18, TGL 3-8, TGL 4-18

[ADENOMA TGLS = TGL2-18, Gross Finding = KIDNEY, LEFT, MASS, TAN]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]

LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
PANCREAS	ACINAR CELL	ADENOMA	
	ACINUS	HYPERPLASIA	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SKIN		SQUAMOUS CELL CARCINOMA	
		[SQUAMOUS CELL CARCINOMA TGLS = TGL 1-17, Gross Finding = SKIN, VENTRAL, ABDOMINAL, MASS, GREEN]	
THYROID GLAND	C-CELL	ADENOMA	
	C-CELL	HYPERPLASIA	MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1137	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702292

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL2]	
KIDNEY, RIGHT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL1]	
PENIS	SMALL
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL3]	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1137	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702292

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, GLANDULAR	TESTIS
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 1-8, TGL 2-17		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, LEFT, DEFORMITY,]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]		
LIVER	ANGIECTASIS	MINIMAL
	CLEAR CELL FOCUS	MULTIPLE
PENIS	HYPOPLASIA	MODERATE
[HYPOPLASIA TGLS = TGL 3-18, Gross Finding = PENIS, SMALL,]		
STOMACH, FORESTOMACH	ULCER	MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1138	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD430
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702293

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1138	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD430
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702293
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PITUITARY GLAND	
PROSTATE	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-17, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-17, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-17, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]				
LIVER	BILE DUCT	HYPERPLASIA	MILD	
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
SEMINAL VESICLE		ATROPHY	MINIMAL	
[ATROPHY TGLS = TGL 2-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	
Tissue Comment: TGL 1-14, TGL 4-14				
[ATROPHY TGLS = TGL1-14, TGL4-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[ATROPHY TGLS = TGL1-14, TGL4-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Pallor and red ocular discharge noted at necropsy, but did not correspond with any gross lesions.				

ANIMAL ID: 1139	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD598
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702294

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM	MUCOSA	DISCOLORATION	RED
Observation Comment: lumen filled with red fluid			
[DISCOLORATION TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1139	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD598
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702294
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MINIMAL	
INTESTINE, SMALL, JEJUNUM		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = INTESTINE, SMALL, JEJUNUM, MUCOSA, DISCOLORATION, RED]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1140	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD607
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702295

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

INTESTINE, LARGE, CECUM Observation Comment: 25 X 20 mm [DISCOLORATION TGLS = TGL7]		DISCOLORATION	RED
KIDNEY, LEFT Observation Comment: 6 X 6 mm Observation Comment: granular [CYST TGLS = TGL2] [DEFORMITY TGLS = TGL1]		CYST DEFORMITY	PALE
KIDNEY, RIGHT Observation Comment: granular [DEFORMITY TGLS = TGL3]		DEFORMITY	PALE
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND Observation Comment: 2 X 2 mm [FOCUS TGLS = TGL6]		FOCUS	DARK
SKIN Observation Comment: paw; 6 X 6 mm; accounts for left forepaw swelling [CRUST TGLS = TGL8]	LEFT, PAW	CRUST	TAN
TESTIS, LEFT		SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1140	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD607
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702295
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]				
TESTIS, RIGHT		SMALL		
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL5]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1140	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD607
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702295
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN		HEMORRHAGE	MILD	
EPIDIDYMIS		HYOSPERMIA	MARKED	
INTESTINE, LARGE, CECUM		MINERAL	MARKED	
[MINERAL TGLS = TGL 7-10, Gross Finding = INTESTINE, LARGE, CECUM, DISCOLORATION, RED]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, CYST,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
		NECROSIS	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 6-11, Gross Finding = PITUITARY GLAND, FOCUS, DARK]				
SKIN		HYPERKERATOSIS	MODERATE	
[HYPERKERATOSIS TGLS = TGL 8-17, Gross Finding = SKIN, LEFT, PAW, CRUST, TAN]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	
		INTERSTITIAL CELL ADENOMA		
Tissue Comment: TGL 4-14, TGL 5-14				
[ATROPHY TGLS = TGL4-14, TGL5-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[ATROPHY TGLS = TGL4-14, TGL5-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1140

TRT#: F1-3

DOSE: 100 mg/L

SEX: Male

REMOVAL DAY: SD607

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702295

Animal Note: Pallor and ruffled coat were seen at necropsy, but were not correlated with any gross findings.

ANIMAL ID: 1141	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702296

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

LUNG	ACCESSORY LOBE	FOCUS	TWO, WHITE
Observation Comment: up to 2 X 1 mm [FOCUS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1141	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702296
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
[INFILTRATION CELLULAR TGLS = TGL 1-7, Gross Finding = LUNG, ACCESSORY LOBE, FOCUS, TWO, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1142	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD459
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702297

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LUNG	LEFT	FOCUS	TWO, WHITE
Observation Comment: up to 2 X 1 mm [FOCUS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1142	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD459
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702297
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		MINERAL	MINIMAL	
		NECROSIS	MODERATE	
AORTA		MINERAL	MARKED	
EYE	ANTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MODERATE	
	CORNEA	INFLAMMATION	CHRONIC, MODERATE	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MODERATE	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 1-17, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-17, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-17, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	CYST		
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MODERATE	
[MINERAL TGLS = TGL 3-6, Gross Finding = LUNG, LEFT, FOCUS, TWO, WHITE]				
STOMACH, FORESTOMACH		MINERAL	MARKED	
STOMACH, GLANDULAR		MINERAL	MODERATE	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Pallor, thinness, and red nasal discharge were confirmed at necropsy, but did not correlate with any specific necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1143	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702298

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LIVER	LOBE, LEFT	FOCUS	TAN
Observation Comment: 3 X 3 mm [FOCUS TGLS = TGL4]			
LUNG		FOCUS	RED
Observation Comment: up to 1 X 1 mm; affects all lung lobes [FOCUS TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, ABDOMINAL	MASS	WHITE
Observation Comment: 65 X 63 X 15 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1143	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702298

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		MIXED CELL FOCUS	
[MIXED CELL FOCUS TGLS = TGL 4-12, Gross Finding = LIVER, LOBE, LEFT, FOCUS, TAN]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 5-6, TGL 5-7			
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, RED]			
SKIN		LIPOMA	
[LIPOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, ABDOMINAL, MASS, WHITE]			

Animal Note: Thinness and ruffled coat were seen at necropsy, but did not correlate with any of the necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1144	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD107
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702299

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE			

OBSERVATIONS

LIVER		NECROSIS	MILD
SPLEEN	WHITE PULP	ATROPHY	MARKED
PRIMARY CAUSE OF DEATH	- UNDETERMINED		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1145	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702300

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LUNG		DISCOLORATION	MOTTLED
Observation Comment: affects all lung lobes, and is brown, red, and green [DISCOLORATION TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 4 X 3 X 2 mm [ENLARGED TGLS = TGL5]			
SKIN	LEFT, AXILLARY	MASS	TAN
Observation Comment: 10 X 6 X 5 mm [MASS TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1145	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702300
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
		PHEOCHROMOCYTOMA	BENIGN	
EPIDIDYMIS		HYOSPERMIA	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MODERATE	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFLAMMATION TGLS = TGL1-6, Gross Finding = LUNG, DISCOLORATION, MOTTLED]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 4-17, Gross Finding = SKIN, LEFT, AXILLARY, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat was seen at necropsy, but did not correlate with any gross finding.				

ANIMAL ID: 1146	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702301

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

PROSTATE	ENLARGED	TAN
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1146	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702301

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	PARATHYROID GLAND	PREPUTIAL GLAND
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	EPITHELIUM, ALVEOLAR/BRONCHIOLAR	HYPERPLASIA	MILD
NOSE	MUCOSA	INFLAMMATION	CHRONIC, MILD
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MILD
PROSTATE		NO CORRESPONDING LESION	

[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = PROSTATE, ENLARGED, TAN]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1147	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702302

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT
KIDNEY, RIGHT	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

EPIDIDYMIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL5]		
EPIDIDYMIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	DARK
Observation Comment: 6 X 6 X 4 mm [ENLARGED TGLS = TGL1]		
TESTIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size; fluid-filled [SMALL TGLS = TGL3]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size; fluid-filled [SMALL TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1147	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702302

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
EPIDIDYMIS		HYOSPERMIA	MARKED
Tissue Comment: TGL 4-14, TGL 5-14			
[HYOSPERMIA TGLS = TGL5-14, TGL4-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]			
[HYOSPERMIA TGLS = TGL5-14, TGL4-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED
Tissue Comment: TGL 2-14, TGL 3-14			
[ATROPHY TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL,]			
[ATROPHY TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL,]			
THYMUS		THYMOMA	BENIGN
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1148	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702303

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LIVER	CAUDATE LOBE CAUDATE LOBE	CYST MASS	CLEAR MOTTLED
Observation Comment: 3 X 3 X 2 mm Observation Comment: 8 X 7 X 6 mm [CYST TGLS = TGL6] [MASS TGLS = TGL5]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]			
THYROID GLAND	LEFT	ENLARGED	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1148

TRT#: F1-3

DOSE: 100 mg/L

SEX: Male

REMOVAL DAY: SD639

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Scheduled Removal (Terminal)

HISTO: 1702303

Observation Comment: 2 X expected size; found at trim

[ENLARGED TGLS = TGL7]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1148	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702303
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-18				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-18, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-18, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	CYST		
		HEPATOCELLULAR ADENOMA		
Tissue Comment: TGL 5-17, TGL 6-17				
[CYST TGLS = TGL6-17, Gross Finding = LIVER, CAUDATE LOBE, CYST, CLEAR]				
[HEPATOCELLULAR ADENOMA TGLS = TGL5-17, Gross Finding = LIVER, CAUDATE LOBE, MASS, MOTTLED]				
PANCREAS	ACINUS	ATROPHY	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
Tissue Comment: TGL 1-14, TGL 2-14				
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	ADENOMA		
[ADENOMA TGLS = TGL 7-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED,]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1149	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD599
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702304

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

EYE	LEFT	DISCOLORATION	OPAQUE
[DISCOLORATION TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
TESTIS, LEFT		SMALL	DARK
Observation Comment: 0.25 X expected size			
[SMALL TGLS = TGL2]			
TESTIS, RIGHT		SMALL	DARK
Observation Comment: 0.25 X expected size			
[SMALL TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1149 GENERATION: F1	TRT#: F1-3 SELECTION: F1 Core Animals	DOSE: 100 mg/L	SEX: Male DISP: Euthanized Moribund	REMOVAL DAY: SD599 HISTO: 1702304
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
EPIDIDYMIS		HYOSPERMIA	MARKED	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
[INFLAMMATION TGLS = TGL 1-13, Gross Finding = EYE, LEFT, DISCOLORATION, OPAQUE]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS		
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
Tissue Comment: TGL 2-14, TGL 3-14				
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL, DARK]				
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL, DARK]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat, red nasal discharge, and thinness were seen at necropsy, but did not correlate with any necropsy findings.				

ANIMAL ID: 1150	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD517
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702305

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1150	TRT#: F1-3	DOSE: 100 mg/L	SEX: Male	REMOVAL DAY: SD517
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702305
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
AORTA		MINERAL	MARKED	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
EYE	ANTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MILD	
	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
		MINERAL	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	MINERAL	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
STOMACH, FORESTOMACH		MINERAL	MILD	
STOMACH, GLANDULAR		MINERAL	MARKED	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red ocular discharge, aqbsence of feces, and thinness were found at necropsy, but did not correlate with any gross findings.				

ANIMAL ID: 1151	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702376

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

SKIN	DORSAL	MASS	YELLOW
Observation Comment: 20 X 16 X 6 mm; ulcerated			
[MASS TGLS = TGL1]			

ANIMAL ID: 1151	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702376
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SKIN		FIBROMA		
		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = SKIN, DORSAL, MASS, YELLOW]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1152	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702377

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

ANIMAL ID: 1152	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702377

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MILD
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1153	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702378

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	NODULE	RED
Observation Comment: 5 X 4 X 4 mm [NODULE TGLS = TGL4]		
TESTIS, LEFT	SMALL	TAN
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL5]		
TESTIS, RIGHT	SMALL	TAN
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL6]		
THORAX	ACCUMULUATION	CLEAR
Observation Comment: 2 ml [ACCUMULUATION TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1153	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702378
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
		PHEOCHROMOCYTOMA	BENIGN	
AORTA		MINERAL	MARKED	
EPIDIDYMIS		HYPOSERMIA	MARKED	
EYE	CORNEA	INFLAMMATION	SUPPURATIVE, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MILD	
LUNG	INTERSTITIUM	MINERAL	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, NODULE, RED]				
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
Tissue Comment: TGL 5-14, TGL 6-14				
[DEGENERATION TGLS = TGL5-14, TGL6-14, Gross Finding = TESTIS, LEFT, SMALL, TAN]				
[DEGENERATION TGLS = TGL5-14, TGL6-14, Gross Finding = TESTIS, RIGHT, SMALL, TAN]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat, pallor, and thinness noted at necropsy, but not correlated with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1154	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD589
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702379

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		CYST DEFORMITY	CLEAR PALE
Observation Comment: 7 mm diameter Observation Comment: granular [CYST TGLS = TGL6] [DEFORMITY TGLS = TGL5]			
LUNG		DISCOLORATION	MOTTLED
Observation Comment: affects all lobes [DISCOLORATION TGLS = TGL7]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		NODULE	RED
Observation Comment: 3 X 2 X 2 mm [NODULE TGLS = TGL9]			
SKIN	RIGHT, THORACIC	MASS	TAN
Observation Comment: 7 X 7 X 2 mm; ulcerated [MASS TGLS = TGL1]			
TESTIS, LEFT		SMALL	TAN

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1154	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD589
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702379
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]				
TESTIS, RIGHT		SMALL		TAN
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]				
THORAX		ACCUMULUATION		CLEAR
Observation Comment: 2 ml [ACCUMULUATION TGLS = TGL8]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1154	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD589
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702379

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	STOMACH, FORESTOMACH	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
		PHEOCHROMOCYTOMA	BENIGN
AORTA		MINERAL	MODERATE
BRAIN	MENINGES	INFLAMMATION	CHRONIC, MINIMAL
EPIDIDYMIS		HYOSPERMIA	MARKED
HEART		CARDIOMYOPATHY	MILD
		MINERAL	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 4-8, TGL 5-8, TGL 6-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER	BILE DUCT	HYPERPLASIA	MILD
LUNG	INTERSTITIUM	MINERAL	MILD
[MINERAL TGLS = TGL 7-7, Gross Finding = LUNG, DISCOLORATION, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 9-11, Gross Finding = PITUITARY GLAND, NODULE, RED]			
SKIN		EPIDERMAL INCLUSION CYST	
[EPIDERMAL INCLUSION CYST TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, THORACIC, MASS, TAN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR		MINERAL	MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1154	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD589
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702379
Tissue Comment: TGL 2-14, TGL 3-14				
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL, TAN]				
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL, TAN]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge and pallor were seen at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1155	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD574
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702380

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
SKIN	DORSAL	MASS	TAN
	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 12 X 12 X 3 mm Observation Comment: 60 X 60 X 15 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
THORAX		FLUID	RED
Observation Comment: 5 ml [FLUID TGLS = TGL3]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1155	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD574
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702380
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
	ATRIUM	THROMBUS		
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DARK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DARK]				
LIVER		NECROSIS	MODERATE	
SKIN		FIBROMA		
		KERATOACANTHOMA		
Tissue Comment: TGL 1-17, TGL 2-18				
[FIBROMA TGLS = TGL2-18, Gross Finding = SKIN, RIGHT, THORACIC, MASS, MOTTLED]				
[KERATOACANTHOMA TGLS = TGL1-17, Gross Finding = SKIN, DORSAL, MASS, TAN]				
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1156	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702381

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PREPUTIAL GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

COAGULATING GLAND, LEFT Observation Comment: 2 X expected size [ENLARGED TGLS = TGL3]		ENLARGED	MOTTLED
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND Observation Comment: 10 X 6 X 4 mm [ENLARGED TGLS = TGL4]		ENLARGED	TAN
PROSTATE Observation Comment: 5 X expected size [ENLARGED TGLS = TGL2]		ENLARGED	MOTTLED
SEMINAL VESICLE Observation Comment: 2 X expected size [ENLARGED TGLS = TGL1]	LEFT	ENLARGED	MOTTLED

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1156	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702381

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, GLANDULAR	TESTIS
THYMUS	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

COAGULATING GLAND		INFLAMMATION	SUPPURATIVE, MARKED
[INFLAMMATION TGLS = TGL 3-16, Gross Finding = COAGULATING GLAND, LEFT, ENLARGED, MOTTLED]			
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
	PELVIS, BILATERAL	INFLAMMATION	SUPPURATIVE, MODERATE
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]			
PROSTATE		INFLAMMATION	SUPPURATIVE, MARKED
[INFLAMMATION TGLS = TGL 2-16, Gross Finding = PROSTATE, ENLARGED, MOTTLED]			
SEMINAL VESICLE		INFLAMMATION	SUPPURATIVE, MARKED
[INFLAMMATION TGLS = TGL 1-16, Gross Finding = SEMINAL VESICLE, LEFT, ENLARGED, MOTTLED]			
STOMACH, FORESTOMACH		ULCER	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE

Animal Note: Ruffled coat and thinness were noted at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1157	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD316
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702382

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

INTESTINE, LARGE, CECUM	THICK	
Observation Comment: 3 X expected thickness [THICK TGLS = TGL2]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1157	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD316
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702382
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
AORTA		MINERAL	MARKED	
EPIDIDYMIS		HYOSPERMIA	MILD	
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MARKED	
[MINERAL TGLS = TGL 2-10, Gross Finding = INTESTINE, LARGE, CECUM, THICK,]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MODERATE	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, ruffled coat, red nasal discharge, and soft feces confirmed at necropsy, but not correlated with any gross findings.				

ANIMAL ID: 1158	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD378
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702383

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1158	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD378
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702383
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	PREPUTIAL GLAND			
OBSERVATIONS				
AORTA		MINERAL	MARKED	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
LIVER		FATTY CHANGE	FOCAL, MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MODERATE	
STOMACH, GLANDULAR		MINERAL	MARKED	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Red nasal and eye discharges noted at necropsy, but not correlated with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1159	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702384

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 23 X 20 X 12 mm; found at trim [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, DORSAL	MASS	TAN
Observation Comment: 15 X 12 X 8 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1159	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702384

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 2-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, DORSAL, MASS, TAN]			

Animal Note: Ocular discharge seen at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1160	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702385

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, RIGHT	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM	PEYERS PATCH	ENLARGED MASS	TAN MOTTLED
Observation Comment: 8 X 8 X 5 mm			
Observation Comment: 69 X 55 X 55 mm; filled with food material			
[ENLARGED TGLS = TGL6]			
[MASS TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.5 X expected size; found at trim			
[SMALL TGLS = TGL7]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size			
[SMALL TGLS = TGL5]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1160	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702385
THYMUS		SMALL		
Observation Comment: 0.5 X expected size				
[SMALL TGLS = TGL2]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1160	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702385
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SKIN	STOMACH, GLANDULAR	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MODERATE	
INTESTINE, SMALL, JEJUNUM		ADENOCARCINOMA		
Tissue Comment: TGL 1-17, TGL 6-17				
[ADENOCARCINOMA TGLS = TGL6-17, TGL1-17, Gross Finding = INTESTINE, SMALL, JEJUNUM, MASS, MOTTLED]				
[ADENOCARCINOMA TGLS = TGL6-17, TGL1-17, Gross Finding = INTESTINE, SMALL, JEJUNUM, PEYERS PATCH, ENLARGED, TAN]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SEMINAL VESICLE		ATROPHY	MILD	
[ATROPHY TGLS = TGL 7-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
SPLEEN	WHITE PULP	ATROPHY	MODERATE	
STOMACH, FORESTOMACH		HYPERKERATOSIS	MODERATE	
	SUBMUCOSA	INFLAMMATION	CHRONIC, MILD	
TESTIS	GERMINAL EPITHELIUM	ATROPHY	MARKED	
[ATROPHY TGLS = TGL 5-14, Gross Finding = TESTIS, LEFT, SMALL,]				
THYMUS		ATROPHY	MARKED	
[ATROPHY TGLS = TGL 2-6, Gross Finding = THYMUS, SMALL,]				
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
	FOLLICULAR CELL, BILATERAL	HYPERTROPHY	MODERATE	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1160	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD578
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702385
CONTRIBUTORY CAUSE OF DEATH - INTESTINE, SMALL, JEJUNUM ADENOCARCINOMA				
Animal Note: Thinness, and pallor were confirmed at necropsy, but not correlated with any necrospy findings.				

ANIMAL ID: 1161	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702386

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

EPIDIDYMIS, RIGHT		SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]			
LIVER	LOBE, MEDIAN	CYST	CLEAR
Observation Comment: 2 X 1 X 1 mm [CYST TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 9 X 5 X 3 mm [ENLARGED TGLS = TGL4]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1161	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702386

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
EPIDIDYMIS		HYOSPERMIA	MILD
[HYOSPERMIA TGLS = TGL 2-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
ISLETS, PANCREATIC		ADENOMA	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	CYST	
[CYST TGLS = TGL 3-12, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
TESTIS	GERMINAL EPITHELIUM	ATROPHY	MARKED
[ATROPHY TGLS = TGL 1-14, Gross Finding = TESTIS, RIGHT, SMALL,]			

ANIMAL ID: 1162	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702387

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

PANCREAS		NODULE	DARK
Observation Comment: 4 X 4 X 3 mm; found at trim [NODULE TGLS = TGL2]			
THYROID GLAND	LEFT	ENLARGED	DARK
Observation Comment: 3 X expected size; found at trim [ENLARGED TGLS = TGL1]			

ANIMAL ID: 1162	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702387

HISTOPATH TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	TRACHEA	URINARY BLADDER
NOT PRESENT			
LYMPH NODE	PARATHYROID GLAND	THYMUS	

OBSERVATIONS			
ADRENAL GLAND			
Tissue Comment: Only one adrenal medulla with slide set			
ISLETS, PANCREATIC		ADENOMA	
[ADENOMA TGLS = TGL 2-17, Gross Finding = PANCREAS, NODULE, DARK]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
THYROID GLAND	C-CELL	ADENOMA	
[ADENOMA TGLS = TGL 1-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED, DARK]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1163	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702388

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 8 X 8 X 3 mm [MASS TGLS = TGL1]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1163	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702388

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
		PHEOCHROMOCYTOMA	BENIGN
EPIDIDYMIS		HYOSPERMIA	MILD
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 4-8, TGL 5-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, ABDOMINAL, MASS, TAN]			
STOMACH, GLANDULAR		MINERAL	MILD
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD
Tissue Comment: TGL 2-14, TGL 3-14			
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL,]			
[DEGENERATION TGLS = TGL2-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL,]			
THYROID GLAND	C-CELL	HYPERPLASIA	MARKED

Animal Note: Thinness noted at necropsy, but not correlated with any specific gross finding.

ANIMAL ID: 1164	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD231
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702389

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS
SKIN	
Tissue Comment: Skin bilateral forelimb and right hindlimb partially canniibalized	

ANIMAL ID: 1164	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD231
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702389
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
PRIMARY CAUSE OF DEATH		- UNDETERMINED		
Animal Note: Red nasal discharge and partial cannabilization were confirmed at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1165	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD599
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702390

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	RED
Observation Comment: 26 X 24 X 18 mm [ENLARGED TGLS = TGL5]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.5 X expected size; found at trim [SMALL TGLS = TGL6]			
TESTIS, LEFT		SMALL	DARK
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]			
TESTIS, RIGHT		SMALL	DARK
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1165	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD599
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702390
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE	MAMMARY GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
[PHEOCHROMOCYTOMA TGLS = TGL 5-17, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, RED]				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE	
SEMINAL VESICLE		ATROPHY	MODERATE	
[ATROPHY TGLS = TGL 6-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MODERATE	
Tissue Comment: TGL 1-14, TGL 2-14				
[ATROPHY TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL, DARK]				
[ATROPHY TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL, DARK]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, scab on tail, and pallor were seen at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1166	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD624
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702391

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	ENLARGED
Observation Comment: 1. 5 X expected size; granular; found at trim [ENLARGED TGLS = TGL1]	
KIDNEY, RIGHT	ENLARGED
Observation Comment: 1.5 X expected size; granular; found at trim [ENLARGED TGLS = TGL2]	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1166	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD624
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702391
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
	PELVIS, BILATERAL	INFLAMMATION	SUPPURATIVE, MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, ENLARGED,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, ENLARGED,]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PROSTATE		INFLAMMATION	CHRONIC, MODERATE	
SEMINAL VESICLE		INFLAMMATION	CHRONIC, MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1167	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD618
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702392

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	WHITE
Observation Comment: 10 X 6 X 3 mm [ENLARGED TGLS = TGL3]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1167	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD618
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702392

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MODERATE
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MILD
	VENULE	THROMBUS	
Tissue Comment: TGL 1-8, TGL 2-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, WHITE]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
THYROID GLAND	FOLLICULAR CELL	HYPERTROPHY	MILD

CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY
	- PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Ruffled coat, red nasal discharge, eyes shut, and thinness were noted at necropsy, but these findings did not correlate with any gross lesions.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1168	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702393

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	ABDOMINAL	MASS	TAN
Observation Comment: 65 X 55 X 15 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1168	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702393

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MODERATE
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SKIN		FIBROMA	
[FIBROMA TGLS = TGL 1-17, Gross Finding = SKIN, ABDOMINAL, MASS, TAN]			

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Thinness and ruffled coat were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1169	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD536
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702394

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	ZYMBALS GLAND

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]			
SKIN	INGUINAL	MASS	MOTTLED
Observation Comment: 110 X 80 X 40 mm; ulcerated, fluid-filled, right preputial gland is incorporated in TGL 1 [MASS TGLS = TGL1]			
URINARY BLADDER		THICK	
Observation Comment: 2 X expected size; found at trim [THICK TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1169 GENERATION: F1	TRT#: F1-4 SELECTION: F1 Core Animals	DOSE: 300 mg/L	SEX: Male DISP: Euthanized Moribund	REMOVAL DAY: SD536 HISTO: 1702394
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
SALIVARY GLAND	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
	UROTHELIUM	HYPERPLASIA	MODERATE	
	PELVIS, BILATERAL	INFLAMMATION	SUPPURATIVE, MINIMAL	
LYMPH NODE, MANDIBULAR		INFLAMMATION	SUPPURATIVE, MILD	
PREPUTIAL GLAND				
Tissue Comment: Only one preputial gland with slide set				
PROSTATE		INFLAMMATION	CHRONIC, MODERATE	
SEMINAL VESICLE		INFLAMMATION	CHRONIC, MILD	
[INFLAMMATION TGLS = TGL 2-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
SKIN		SCHWANNOMA	MALIGNANT	
[SCHWANNOMA TGLS = TGL 1-17, Gross Finding = SKIN, INGUINAL, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, FORESTOMACH		ULCER	MILD	
TESTIS	GERMINAL EPITHELIUM	DEGENERATION	MILD	
URINARY BLADDER	UROTHELIUM	HYPERPLASIA	MODERATE	
	MUCOSA	INFLAMMATION	CHRONIC, MINIMAL	
[HYPERPLASIA TGLS = TGL 3-8, Gross Finding = URINARY BLADDER, THICK,]				
CONTRIBUTORY CAUSE OF DEATH	- SKIN SCHWANNOMA MALIGNANT			
Animal Note: Ruffled coat, thinness. pallor, and red nasal discharge seen at necropsy, but not correlated with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1170	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD445
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702395

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	MOTTLED
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL4]			
KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		CYST	CLEAR
Observation Comment: 7 X 7 X 6 mm Observation Comment: granular [CYST TGLS = TGL3] [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1170	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD445
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702395
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	TESTIS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
		PHEOCHROMOCYTOMA	BENIGN	
[PHEOCHROMOCYTOMA TGLS = TGL 4-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, MOTTLED]				
AORTA		MINERAL	MILD	
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		NECROSIS	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MARKED	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, pallor, ruffled coat, and brown urogenital discharge seen at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1171	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702396

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1171	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702396

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
EPIDIDYMIS		HYOSPERMIA	MARKED
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MILD
Tissue Comment: TGL 3-8, TGL 4-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		ANGIECTASIS	MILD
		CLEAR CELL FOCUS	
SALIVARY GLAND	PAROTID GLAND	INFLAMMATION	CHRONIC, MILD
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED
		INTERSTITIAL CELL ADENOMA	
Tissue Comment: TGL 1-14, TGL 2-14			
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]			
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]			

Animal Note: Ruffled coat was found at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1172	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD378
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702397

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

EYE	RIGHT	DISCOLORATION	OPAQUE
[DISCOLORATION TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, INGUINAL	CRUST	
Observation Comment: 5 X 5 mm			
[CRUST TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1172	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD378
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702397
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	
STOMACH, FORESTOMACH	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
OBSERVATIONS				
EYE	LENS	CATARACT	MODERATE	
[CATARACT TGLS = TGL 1-13, Gross Finding = EYE, RIGHT, DISCOLORATION, OPAQUE]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
		FATTY CHANGE	FOCAL, MINIMAL	
	BILE DUCT	HYPERPLASIA	MINIMAL	
PANCREAS	ACINUS	ATROPHY	MINIMAL	
SKIN		KERATOACANTHOMA		
[KERATOACANTHOMA TGLS = TGL 2-17, Gross Finding = SKIN, RIGHT, INGUINAL, CRUST,]				
STOMACH, GLANDULAR		MINERAL	MINIMAL	
PRIMARY CAUSE OF DEATH - UNDETERMINED				
Animal Note: Eye abnormality was confirmed at necropsy, but did not correlate with any gross finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1173	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702398

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

EPIDIDYMIS, LEFT		SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL4]			
EPIDIDYMIS, RIGHT		SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL3]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL6]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
LIVER		FOCUS	WHITE
Observation Comment: multiple; up to 1 X 1 mm; affects all liver lobes [FOCUS TGLS = TGL8]			
LUNG		DISCOLORATION	MOTTLED
Observation Comment: affects all lung lobes [DISCOLORATION TGLS = TGL9]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1173	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702398
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL7]				
TESTIS, LEFT			SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]				
TESTIS, RIGHT			SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL1]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1173	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702398

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SKIN
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

PARATHYROID GLAND

OBSERVATIONS

EPIDIDYMIS		HYOSPERMIA	MARKED
Tissue Comment: TGL 3-14, TGL 4-14			
[HYOSPERMIA TGLS = TGL4-14, TGL3-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]			
[HYOSPERMIA TGLS = TGL4-14, TGL3-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
	RENAL TUBULE	HYALINE DROPLET ACCUMULATION	MILD
Tissue Comment: TGL 5-8, TGL 6-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
[CLEAR CELL FOCUS TGLS = TGL 8-12, Gross Finding = LIVER, FOCUS, WHITE]			
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MODERATE
Tissue Comment: TGL 9-6, TGL 9-7			
[INFLAMMATION TGLS = TGL9-6, Gross Finding = LUNG, DISCOLORATION, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
SEMINAL VESICLE		ATROPHY	MILD
[ATROPHY TGLS = TGL 7-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
STOMACH, FORESTOMACH		HYPERKERATOSIS	MODERATE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1173	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702398
TESTIS	SUBMUCOSA	INFLAMMATION	CHRONIC, MILD	
	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	
Tissue Comment: TGL 1-14, TGL 2-14				
[ATROPHY TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[ATROPHY TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
Animal Note: Pallor, thinness, and red nasal discharge were noted at necropsy, but did not correlate with any gross findings.				

ANIMAL ID: 1174	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702399

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

PANCREAS	MASS	TAN
Tissue Comment: Greater than 5 masses or nodules present in pancreas, largest 5 recorded		
Observation Comment: 5 X 5 X 4 mm		
Observation Comment: 7 X 5 X 5 mm		
Observation Comment: 7 X 6 X 5 mm		
Observation Comment: 7 X 6 X 4 mm		
Observation Comment: 5 X 5 X 3 mm		
[MASS TGLS = TGL4]		
[MASS TGLS = TGL3]		
[MASS TGLS = TGL1]		
[MASS TGLS = TGL2]		
[MASS TGLS = TGL5]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1174	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702399

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
EPIDIDYMIS		HYOSPERMIA	MARKED
HEART		CARDIOMYOPATHY	MINIMAL
ISLETS, PANCREATIC		ADENOMA	
Tissue Comment: TGL 1-17, TGL 2-18, TGL 3-19, TGL 4-20, TGL 5-21			
[ADENOMA TGLS = TGL1-17, Gross Finding = PANCREAS, MASS, TAN]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
PANCREAS	ACINUS	HYPERPLASIA	MARKED
Tissue Comment: TGL 1-17, TGL 2-18, TGL 3-19, TGL 4-20, TGL 5-21			
[HYPERPLASIA TGLS = TGL4-20, TGL5-21, TGL2-18, TGL3-19, Gross Finding = PANCREAS, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MODERATE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1175	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702400

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	DARK
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	DARK
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]		
PANCREAS	MASS	TAN
Observation Comment: 8 X 6 X 3 mm [MASS TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1175	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702400

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

EYE	CORNEA	INFLAMMATION	CHRONIC, MILD
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 2-18, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, DARK]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DARK]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
PANCREAS		CYST	
	ACINUS	HYPERPLASIA	MILD
[HYPERPLASIA TGLS = TGL 1-17, Gross Finding = PANCREAS, MASS, TAN]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1176	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD582
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702401

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		ENLARGED	
Observation Comment: 1.5 X expected size; granular; found at trim [ENLARGED TGLS = TGL3]			
KIDNEY, RIGHT		ENLARGED	
Observation Comment: 1.5 X expected size; granular; found at trim [ENLARGED TGLS = TGL4]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 7 X 5 X 3 mm [ENLARGED TGLS = TGL1]			
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.25 X expected size; found at trim [SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1176	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD582
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702401
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, ENLARGED,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, ENLARGED,]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
SEMINAL VESICLE		ATROPHY	MILD	
[ATROPHY TGLS = TGL 2-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			

ANIMAL ID: 1177	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD373
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702402

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

MAMMARY GLAND	LEFT, THORACIC	MASS	MOTTLED
Observation Comment: 70 X 65 X 60 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1177	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD373
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702402
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-17, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, MOTTLED]				
STOMACH, GLANDULAR		ULCER	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1178	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD583
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702403

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
SKIN	LEFT, HINDLIMB	CRUST	RED
	RIGHT, PAW	CRUST	TAN
Observation Comment: 2 X 2 mm			
Observation Comment: hind; 4 X 3 mm			
[CRUST TGLS = TGL1]			
[CRUST TGLS = TGL2]			
THYROID GLAND	LEFT	ENLARGED	
Observation Comment: 2 X expected size; may involve parathyroids			
[ENLARGED TGLS = TGL5]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1178	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD583
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702403
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL	
SKIN	DERMIS	INFLAMMATION	CHRONIC, MILD	
Tissue Comment: TGL 1-17, TGL 2-18				
[INFLAMMATION TGLS = TGL2-18, TGL1-17, Gross Finding = SKIN, LEFT, HINDLIMB, CRUST, RED]				
[INFLAMMATION TGLS = TGL2-18, TGL1-17, Gross Finding = SKIN, RIGHT, PAW, CRUST, TAN]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
THYROID GLAND	C-CELL	ADENOMA		
[ADENOMA TGLS = TGL 5-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED,]				
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1179	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD411
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702404

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL

PRIMARY CAUSE OF DEATH - UNDETERMINED

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1180	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD412
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702405

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

ANIMAL ID: 1180	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD412
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702405
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Pallor, bilateral eye opacity, and brown nasal discharge were noted at necropsy, but did not correlate with any of the necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1181	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD477
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702406

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL2]			
LUNG	LEFT	FOCUS	WHITE
	RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; 1 X 1 mm			
[FOCUS TGLS = TGL4]			
[FOCUS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PANCREAS		NODULE	DARK
Observation Comment: 5 X 3 X 1 mm; found at trim			
[NODULE TGLS = TGL5]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1181	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD477
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702406

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ISLETS, PANCREATIC	ADENOMA	
[ADENOMA TGLS = TGL 5-17, Gross Finding = PANCREAS, NODULE, DARK]		
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 1-8, TGL 2-8		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]		
LIVER	CLEAR CELL FOCUS	MULTIPLE
LUNG	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-7, TGL 4-6		
[INFILTRATION CELLULAR TGLS = TGL3-7, TGL4-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]		
[INFILTRATION CELLULAR TGLS = TGL3-7, TGL4-6, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, WHITE]		

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Ruffled coat noted at necropsy, but not correlated with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1182	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD444
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702407

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1182	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD444
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702407
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS		
SEMINAL VESICLE		ATROPHY	MODERATE	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1183	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702408

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LUNG	LOBE, LEFT	FOCUS	WHITE
	RIGHT	FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm			
Observation Comment: caudal lobe; up to 3 X 2 mm [FOCUS TGLS = TGL3] [FOCUS TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1183	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702408

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE	LYMPH NODE, MANDIBULAR

OBSERVATIONS

AORTA		MINERAL	MODERATE
INTESTINE, LARGE, CECUM		MINERAL	MARKED
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
		FATTY CHANGE	FOCAL, MINIMAL
	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	INTERSTITIUM	MINERAL	MILD
Tissue Comment: TGL 3-6, TGL 4-7			
[MINERAL TGLS = TGL3-6, TGL4-7, Gross Finding = LUNG, LOBE, LEFT, FOCUS, WHITE]			
[MINERAL TGLS = TGL3-6, TGL4-7, Gross Finding = LUNG, RIGHT, FOCUS, WHITE]			
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL
STOMACH, GLANDULAR		MINERAL	MODERATE

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Pallor and thinness were noted at necropsy, but not correlated with any necropsy findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1184	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD440
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702409

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		

ANIMAL ID: 1184	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD440
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702409
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1185	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702410

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
LYMPH NODE, MANDIBULAR	ENLARGED	
Observation Comment: 2 X expected size; found at trim [ENLARGED TGLS = TGL4]		
PITUITARY GLAND	ENLARGED	RED
Observation Comment: 9 X 7 X 3 mm [ENLARGED TGLS = TGL3]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1185	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702410

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 1-8, TGL 2-17		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]		
LYMPH NODE, MANDIBULAR	LYMPHATIC, SINUS	ECTASIA
[ECTASIA TGLS = TGL 4-12, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED,]		
MAMMARY GLAND	DUCT	DILATION
PITUITARY GLAND	PARS DISTALIS	ADENOMA
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
TESTIS	INTERSTITIAL CELL ADENOMA	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1186	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD633
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702411
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND		
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE	MAMMARY GLAND	PARATHYROID GLAND		
OBSERVATIONS				
HEART	ENDOCARDIUM, SCHWANN CELL	HYPERPLASIA	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

ANIMAL ID: 1187	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702412

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

TESTIS, LEFT	DISCOLORATION	MOTTLED
Observation Comment: consistent with blood within testes as verified by genitourinary observations		
[DISCOLORATION TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1187	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702412

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MILD
PANCREAS	ACINUS	HYPERPLASIA	MILD
SKIN		SCHWANNOMA	MALIGNANT
STOMACH, GLANDULAR		MINERAL	MINIMAL
TESTIS		INTERSTITIAL CELL ADENOMA	
[INTERSTITIAL CELL ADENOMA TGLS = TGL 1-14, Gross Finding = TESTIS, LEFT, DISCOLORATION, MOTTLED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1188	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702413

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND		ENLARGED	MOTTLED
Observation Comment: 13 X 11 X 11 mm [ENLARGED TGLS = TGL4]			
KIDNEY, LEFT		CYST DEFORMITY	CLEAR
Observation Comment: 3 X 2 X 2 mm; found at trim Observation Comment: granular [CYST TGLS = TGL6] [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		CYST DEFORMITY	CLEAR
Observation Comment: 3 X 3 X 3 mm; found at trim Observation Comment: granular [CYST TGLS = TGL5] [DEFORMITY TGLS = TGL2]			
SKIN	RIGHT, CERVICAL	MASS	TAN
Observation Comment: 40 X 35 X 13 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1188	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702413

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
[PHEOCHROMOCYTOMA TGLS = TGL 4-17, Gross Finding = ADRENAL GLAND, ENLARGED, MOTTLED]			
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 2-8, TGL 3-8, TGL 5-8, TGL 6-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL6-8, TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL6-8, TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL6-8, TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL6-8, TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
PREPUTIAL GLAND		INFLAMMATION	SUPPURATIVE, MINIMAL
SKIN		FIBROMA	
[FIBROMA TGLS = TGL 1-18, Gross Finding = SKIN, RIGHT, CERVICAL, MASS, TAN]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1189	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD393
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702414

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	CYST	CLEAR
Observation Comment: 3 X 3 mm [CYST TGLS = TGL2]		
KIDNEY, RIGHT	CYST	CLEAR
Observation Comment: 4 X 4 mm [CYST TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	RED
Observation Comment: 9 X 6 X 4 mm [ENLARGED TGLS = TGL3]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1189	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD393
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702414

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY	RENAL TUBULE	ADENOMA CHRONIC PROGRESSIVE NEPHROPATHY	MULTIPLE MILD
Tissue Comment: TGL 1-8, TGL 2-17 [ADENOMA TGLS = TGL2-17, Gross Finding = KIDNEY, LEFT, CYST, CLEAR] [CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Nasal discharge and thinness confirmed at necropsy, but did not correlate with any specific necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1190	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD575
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702415

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
NO CORRELATING LESION	TO OBSERVATION / MASS	
Observation Comment: Cold to Touch not correlated on IANR as it was not present, this clinical observation could not have been correlated at necropsy. See DR-58454-B-WJ-0064		
TESTIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1190 GENERATION: F1	TRT#: F1-4 SELECTION: F1 Core Animals	DOSE: 300 mg/L	SEX: Male DISP: Euthanized Moribund	REMOVAL DAY: SD575 HISTO: 1702415
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL GLAND				
Tissue Comment: Only one adrenal medulla with slide set				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DARK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DARK]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
PROSTATE		INFLAMMATION	CHRONIC, MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
Tissue Comment: TGL 3-14, TGL 4-14				
[DEGENERATION TGLS = TGL4-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL4-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge, pallor and thinness were noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1191	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD493
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702416

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

EPIDIDYMIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size; found at trim [SMALL TGLS = TGL6]			
EPIDIDYMIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size; found at trim [SMALL TGLS = TGL7]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granulated [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granulated [DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.5 X expected size; found at trim [SMALL TGLS = TGL3]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size; found at trim [SMALL TGLS = TGL4]			
TESTIS, RIGHT		SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1191

TRT#: F1-4

DOSE: 300 mg/L

SEX: Male

REMOVAL DAY: SD493

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Found Dead

HISTO: 1702416

Observation Comment: 0.5 X expected size; found at trim

[SMALL TGLS = TGL5]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1191	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD493
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702416

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SKIN
SPLEEN	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

AORTA		MINERAL	MARKED
EPIDIDYMIS		HYOSPERMIA	MARKED
Tissue Comment: TGL 6-14, TGL 7-14			
[HYOSPERMIA TGLS = TGL6-14, TGL7-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]			
[HYOSPERMIA TGLS = TGL6-14, TGL7-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
HEART		CARDIOMYOPATHY	MILD
		MINERAL	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-17			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LUNG	INTERSTITIUM	MINERAL	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SEMINAL VESICLE		ATROPHY	MILD
[ATROPHY TGLS = TGL 3-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]			
STOMACH, FORESTOMACH		MINERAL	MINIMAL
STOMACH, GLANDULAR		MINERAL	MARKED
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE
Tissue Comment: TGL 4-14, TGL 5-14			
[DEGENERATION TGLS = TGL4-14, TGL5-14, Gross Finding = TESTIS, LEFT, SMALL,]			
[DEGENERATION TGLS = TGL4-14, TGL5-14, Gross Finding = TESTIS, RIGHT, SMALL,]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1191	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD493
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702416
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness and red nasal discharge were confirmed at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1192	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD515
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702417

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

ABDOMEN	FLUID	CLEAR
Observation Comment: approximately 5 ml [FLUID TGLS = TGL7]		
EPIDIDYMIS, LEFT	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL4]		
EPIDIDYMIS, RIGHT	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL3]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL6]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	DARK
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1192	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD515
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702417
TESTIS, RIGHT		SMALL	DARK	
Observation Comment: 0.25 X expected size				
[SMALL TGLS = TGL1]				
THORAX		FLUID	CLEAR	
Observation Comment: approximately 10 ml				
[FLUID TGLS = TGL8]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1192 GENERATION: F1	TRT#: F1-4 SELECTION: F1 Core Animals	DOSE: 300 mg/L	SEX: Male DISP: Euthanized Moribund	REMOVAL DAY: SD515 HISTO: 1702417
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
	BILATERAL	PHEOCHROMOCYTOMA	BENIGN	
AORTA		MINERAL	MARKED	
EPIDIDYMIS		HYOSPERMIA	MARKED	
Tissue Comment: TGL 3-14, TGL 4-14				
[HYOSPERMIA TGLS = TGL4-14, TGL3-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]				
[HYOSPERMIA TGLS = TGL4-14, TGL3-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]				
HEART		MINERAL	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 5-8, TGL 6-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
Tissue Comment: TGL 1-14, TGL 2-14				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL, DARK]				
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL, DARK]				
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red ocular discharge, pallor, thinness, and ruffled coat were seen at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1193	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702418

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

AORTA	MASS	TAN
Observation Comment: 21 X 15 X 9 mm [MASS TGLS = TGL6]		
KIDNEY, LEFT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL5]		
KIDNEY, RIGHT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
PANCREAS	NODULE	ONE, TAN
	NODULE	PINK
	NODULE	TAN, TWO
Observation Comment: 4 X 3 X 2 mm		
Observation Comment: 5 X 5 X 4 mm		
Observation Comment: 5 X 3 X 1 mm [NODULE TGLS = TGL8] [NODULE TGLS = TGL7] [NODULE TGLS = TGL9]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1193	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702418
SEMINAL VESICLE	BILATERAL	SMALL		
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL3]				
SKIN	LEFT, ABDOMINAL	MASS		TAN
	RIGHT, DORSAL	MASS		MOTTLED
Observation Comment: 105 X 80 x 60 mm Observation Comment: 60 X 55 X 13 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1193	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702418

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
AORTA		NEUROENDOCRINE CELL TUMOR	BENIGN
[NEUROENDOCRINE CELL TUMOR TGLS = TGL 6-18, Gross Finding = AORTA, MASS, TAN]			
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL
HEART		CARDIOMYOPATHY	MILD
ISLETS, PANCREATIC		ADENOMA	
Tissue Comment: TGL 7-19, TGL 8-19, TGL 9-19			
[ADENOMA TGLS = TGL9-19, Gross Finding = PANCREAS, NODULE, TAN, TWO]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL
Tissue Comment: TGL 4-8, TGL 5-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER	BILE DUCT	HYPERPLASIA	MILD
PANCREAS	ACINUS	HYPERPLASIA	MODERATE
Tissue Comment: TGL 7-19, TGL 8-19, TGL 9-19			
[HYPERPLASIA TGLS = TGL8-19, TGL7-19, Gross Finding = PANCREAS, NODULE, ONE, TAN]			
[HYPERPLASIA TGLS = TGL8-19, TGL7-19, Gross Finding = PANCREAS, NODULE, PINK]			
SEMINAL VESICLE		ATROPHY	MILD
[ATROPHY TGLS = TGL 3-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]			

ANIMAL ID: 1193	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702418
SKIN		FIBROMA		MULTIPLE
Tissue Comment: TGL 1-17, TGL 2-18				
[FIBROMA TGLS = TGL2-18, TGL1-17, Gross Finding = SKIN, LEFT, ABDOMINAL, MASS, TAN]				
[FIBROMA TGLS = TGL2-18, TGL1-17, Gross Finding = SKIN, RIGHT, DORSAL, MASS, MOTTLED]				
THYROID GLAND	C-CELL	ADENOMA		
Animal Note: Thinness and ruffled coat were noted at necropsy, but did not correspond with any gross findings.				

ANIMAL ID: 1194	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702419

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL2]	
KIDNEY, RIGHT	DEFORMITY
Observation Comment: granular [DEFORMITY TGLS = TGL1]	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1194	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702419

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 1-8, TGL 2-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
	FOLLICULAR CELL, BILATERAL	HYPERTROPHY	MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1195	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702420

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		CYST DEFORMITY	CLEAR PALE
Observation Comment: 4 mm diameter			
Observation Comment: 5 mm diameter			
Observation Comment: granular			
[CYST TGLS = TGL5]			
[CYST TGLS = TGL4]			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		CYST DEFORMITY	CLEAR PALE
Observation Comment: 5 mm diameter			
Observation Comment: granular			
[CYST TGLS = TGL3]			
[DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE	RIGHT	SMALL	PALE
Observation Comment: 0.5 X expected size; found at trim			
[SMALL TGLS = TGL6]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1195	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702420
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MILD	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
INTESTINE, LARGE, CECUM		MINERAL	MODERATE	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 3-8, TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL4-8, TGL2-8, TGL5-8, TGL3-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL4-8, TGL2-8, TGL5-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL4-8, TGL2-8, TGL5-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL4-8, TGL2-8, TGL5-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MINIMAL	
SEMINAL VESICLE		ATROPHY	MILD	
[ATROPHY TGLS = TGL 6-16, Gross Finding = SEMINAL VESICLE, RIGHT, SMALL, PALE]				
STOMACH, GLANDULAR		MINERAL	MODERATE	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red discharge from eyes and nose, pallor, and thinness confirmed at necropsy, but did not correlate with any necropsy findings				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1196	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD520
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702421

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

LYMPH NODE, MESENTERIC	ENLARGED	MOTTLED
Observation Comment: 109 X 60 X 30 mm; massively cavitated and the jejunum penetrates it [ENLARGED TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1196	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD520
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702421
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		NECROSIS	MINIMAL	
LYMPH NODE, MESENTERIC		LYMPHOMA	MALIGNANT	
[LYMPHOMA TGLS = TGL 3-17, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	
Tissue Comment: TGL 1-14, TGL 2-14				
[ATROPHY TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[ATROPHY TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH				
- LYMPH NODE, MESENTERIC LYMPHOMA MALIGNANT				
Animal Note: Distended abdomen and pallor were confirmed at necropsy, but did not correlate with any specific necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1197	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702422

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PROSTATE		DISCOLORATION	BROWN
[DISCOLORATION TGLS = TGL1]			
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.25 X expected size			
[SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1197	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702422

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PANCREAS	PITUITARY GLAND
PREPUTIAL GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
TESTIS	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
		PHEOCHROMOCYTOMA	BENIGN
AORTA		MINERAL	MILD
HEART		CARDIOMYOPATHY	MINIMAL
INTESTINE, LARGE, CECUM		MINERAL	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 3-8, TGL 4-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
PARATHYROID GLAND		CYST	CONGENITAL
PROSTATE	ACINUS	ATROPHY	MILD
[ATROPHY TGLS = TGL 1-16, Gross Finding = PROSTATE, DISCOLORATION, BROWN]			
SEMINAL VESICLE		ATROPHY	MILD
[ATROPHY TGLS = TGL 2-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]			
SPLEEN	WHITE PULP	ATROPHY	MILD
STOMACH, GLANDULAR		MINERAL	MODERATE

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Thinness, ruffled coat, and pallor confirmed at necropsy, but not correlated with any specific gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1198	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702423

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	VENTRAL	MASS	BROWN
Observation Comment: neck; 6 X 6 X 6 mm; contains hair [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1198	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702423

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	EPIDIDYMIS
ESOPHAGUS	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE
BRAIN		CYST	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
PANCREAS	ACINUS	HYPERPLASIA	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, VENTRAL, MASS, BROWN]			

Animal Note: Bilateral ocular discharge noted at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1199	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD547
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702424

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 4 X 4 X 3 mm [ENLARGED TGLS = TGL4]			
TESTIS, LEFT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL5]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL6]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1199	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD547
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702424
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TRACHEA		
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
		PHEOCHROMOCYTOMA	BENIGN	
[PHEOCHROMOCYTOMA TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED,]				
EPIDIDYMIS		HYOSPERMIA	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-17, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MODERATE	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
PROSTATE	ACINUS	ATROPHY	MODERATE	
SEMINAL VESICLE		ATROPHY	MODERATE	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MARKED	
Tissue Comment: TGL 5-14, TGL 6-14				
[ATROPHY TGLS = TGL5-14, TGL6-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[ATROPHY TGLS = TGL5-14, TGL6-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
URINARY BLADDER	MUCOSA	INFLAMMATION	CHRONIC, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1199	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD547
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702424
Animal Note: Thinness and ruffled coat noted at necropsy, but not correlated with any specific gross finding				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1200	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD547
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702425

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1200	TRT#: F1-4	DOSE: 300 mg/L	SEX: Male	REMOVAL DAY: SD547
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702425
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
AORTA		MINERAL	MODERATE	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE, BILATERAL	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
STOMACH, FORESTOMACH		MINERAL	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MARKED	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, hunched posture, ruffled coat, and right eye red discharge noted at necropsy, but not correlated with any specific finding				

ANIMAL ID: 1201	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD616
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702496

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	MOTTLED
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	MOTTLED
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1201	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD616
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702496
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, MOTTLED]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, MOTTLED]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
PANCREAS	ACINUS	HYPERPLASIA	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1202	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702497

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; affects all lung lobes; found at trim [FOCUS TGLS = TGL2]		
PITUITARY GLAND	ENLARGED	TAN
Observation Comment: 7 X 6 X 6 mm [ENLARGED TGLS = TGL1]		
STOMACH, FORESTOMACH	NODULE	TAN
Observation Comment: 1 X 1 X 1 mm; found at trim		
Observation Comment: 3 X 3 X 1 mm; found at trim		
Observation Comment: 2 X 2 X 1 mm; found at trim [NODULE TGLS = TGL5] [NODULE TGLS = TGL3] [NODULE TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1202	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702497

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	SPLEEN	STOMACH, GLANDULAR	TESTIS
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]			
STOMACH, FORESTOMACH		HYPERKERATOSIS	MILD
	SUBMUCOSA	INFLAMMATION	CHRONIC, MILD
Tissue Comment: TGL 3-17, TGL 4-9, TGL 5-17			
[HYPERKERATOSIS TGLS = TGL5-17, TGL4-9, TGL3-17, Gross Finding = STOMACH, FORESTOMACH, NODULE, TAN]			
THYMUS		THYMOMA	BENIGN
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

ANIMAL ID: 1203	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD362
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702498
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND		
OBSERVATIONS				
NO CORRELATE		TO OBSERVATION / MASS		

ANIMAL ID: 1203	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD362
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702498
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	MAMMARY GLAND			
OBSERVATIONS				
BRAIN	ARTERIOLE	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Red nasal discharge was seen at necropsy, but not correlated with any gross lesion.				

ANIMAL ID: 1204	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD550
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702499

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1204	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD550
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702499
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN		HEMORRHAGE	MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	VENULE	THROMBUS		
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		EOSINOPHILIC FOCUS		
	BILE DUCT	HYPERPLASIA	MINIMAL	
STOMACH, FORESTOMACH		ULCER	MILD	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1205	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD555
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702500

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND	RIGHT	ENLARGED	TAN
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	DIFFUSE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	DIFFUSE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LIVER	LOBE, LEFT	FOCUS	TAN
Observation Comment: up to 2 X 2 mm; found at trim [FOCUS TGLS = TGL6]			
LYMPH NODE	BILATERAL, LUMBAR	ENLARGED	RED
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	DORSAL	MASS	TAN
Observation Comment: 20 X 16 X 5 mm [MASS TGLS = TGL5]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1205	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD555
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702500
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
[PHEOCHROMOCYTOMA TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, RIGHT, ENLARGED, TAN]				
BRAIN	MENINGES	INFLAMMATION	CHRONIC, MILD	
EPIDIDYMIS		HYPOSERMIA	MARKED	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-17, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DIFFUSE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DIFFUSE]				
LIVER		EOSINOPHILIC FOCUS		
	BILE DUCT	HYPERPLASIA	MILD	
		MIXED CELL FOCUS	MULTIPLE	
[MIXED CELL FOCUS TGLS = TGL 6-20, Gross Finding = LIVER, LOBE, LEFT, FOCUS, TAN]				
LYMPH NODE	LUMBAR	CONGESTION	MILD	
[CONGESTION TGLS = TGL 4-18, Gross Finding = LYMPH NODE, BILATERAL, LUMBAR, ENLARGED, RED]				
SKIN		KERATOACANTHOMA		
[KERATOACANTHOMA TGLS = TGL 5-19, Gross Finding = SKIN, DORSAL, MASS, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY	MODERATE	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat and thinness were found at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1206	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD382
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702501

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL1]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL2]			
LYMPH NODE	LEFT, RENAL	ENLARGED	TAN, TWO
Observation Comment: 4 X expected size			
[ENLARGED TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	ABDOMINAL	MASS	PALE
	LEFT, FACE	MASS	MOTTLED
Observation Comment: 16 X 10 X 5 mm; found at trim			
Observation Comment: 15 X 7 X 7 mm			
[MASS TGLS = TGL5]			
[MASS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1206	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD382
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702501

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	STOMACH, GLANDULAR
TESTIS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

THYMUS

OBSERVATIONS

HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER	BILE DUCT	HYPERPLASIA	MILD
LYMPH NODE	RENAL, SINUS	ECTASIA	LYMPHATIC, MARKED
[ECTASIA TGLS = TGL 3-18, Gross Finding = LYMPH NODE, LEFT, RENAL, ENLARGED, TAN, TWO]			
SKIN		FIBROMA	
	SUBCUTANEOUS TISSUE	INFLAMMATION	CHRONIC, MODERATE
Tissue Comment: TGL 4-17, TGL 5-19			
[FIBROMA TGLS = TGL5-19, Gross Finding = SKIN, ABDOMINAL, MASS, PALE]			
[INFLAMMATION TGLS = TGL4-17, Gross Finding = SKIN, LEFT, FACE, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
STOMACH, FORESTOMACH	SUBMUCOSA	INFLAMMATION	CHRONIC, MILD

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Nasal discharge (red) and thinness were noted at necropsy, but did not correlate with any gross lesions.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1207	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD633
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702502

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 8 X 5 X 3 mm; found at trim [ENLARGED TGLS = TGL3]			
SKIN	DORSAL	MASS	TAN
	RIGHT	MASS	TAN
Observation Comment: 15 X 13 X 3 mm Observation Comment: hind foot; 7 X 6 X 1 mm; ulcerated [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
STOMACH, FORESTOMACH		ULCER	DARK
Observation Comment: 9 X 5 mm; found at trim [ULCER TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1207	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD633
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702502
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
INTESTINE, LARGE, CECUM	LYMPH NODE			
OBSERVATIONS				
EYE	ANTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MILD	
	CORNEA	INFLAMMATION	CHRONIC, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		EOSINOPHILIC FOCUS		
		FATTY CHANGE	FOCAL, MINIMAL	
	BILE DUCT	HYPERPLASIA	MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
SKIN	DERMIS	INFLAMMATION	CHRONIC, MILD	
		LIPOMA		
Tissue Comment: TGL 1-17, TGL 2-18				
[INFLAMMATION TGLS = TGL2-18, Gross Finding = SKIN, RIGHT, MASS, TAN]				
[LIPOMA TGLS = TGL1-17, Gross Finding = SKIN, DORSAL, MASS, TAN]				
STOMACH, FORESTOMACH		ULCER	MODERATE	
[ULCER TGLS = TGL 4-9, Gross Finding = STOMACH, FORESTOMACH, ULCER, DARK]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			
Animal Note: Ocular discharge was noted at necrpsy, but did not correlate with any specific necropsy finding.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1208	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702503

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM Observation Comment: 6 X 5 X 4 mm; found at trim [MASS TGLS = TGL4]	MASS	MOTTLED
KIDNEY, LEFT Observation Comment: granular [DEFORMITY TGLS = TGL2]	DEFORMITY	
KIDNEY, RIGHT Observation Comment: granular [DEFORMITY TGLS = TGL1]	DEFORMITY	
LUNG Observation Comment: multiple; up to 3 X 2 mm; affects all lung lobes; found at trim [FOCUS TGLS = TGL3]	FOCUS	WHITE
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1208	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702503
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	MAMMARY GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
INTESTINE, SMALL, JEJUNUM		ADENOCARCINOMA		
[ADENOCARCINOMA TGLS = TGL 4-17, Gross Finding = INTESTINE, SMALL, JEJUNUM, MASS, MOTTLED]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
PANCREAS	ACINUS	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1209	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702504

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL6]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL5]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL4]			
SKIN	RIGHT, AXILLARY	CRUST	TAN
	RIGHT	MASS	TAN
	RIGHT, FORELIMB	MASS	TAN
Observation Comment: 10 X 5 mm Observation Comment: hind foot; 7 X 4 X 3 mm; ulcerated Observation Comment: 10 X 5 X 4 mm; ulcerated [CRUST TGLS = TGL3] [MASS TGLS = TGL1] [MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1209	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702504
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 5-8, TGL 6-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 4-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]				
PANCREAS	ACINAR CELL	ADENOMA		
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SKIN		KERATOACANTHOMA	MULTIPLE	
		ULCER	MILD	
Tissue Comment: TGL 1-17, TGL 2-18, TGL 3-19				
[KERATOACANTHOMA TGLS = TGL2-18, TGL3-19, Gross Finding = SKIN, RIGHT, AXILLARY, CRUST, TAN]				
[KERATOACANTHOMA TGLS = TGL2-18, TGL3-19, Gross Finding = SKIN, RIGHT, FORELIMB, MASS, TAN]				
[ULCER TGLS = TGL1-17, Gross Finding = SKIN, RIGHT, MASS, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1210	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD420
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702505

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL10]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL6]			
LIVER	LOBE, LEFT	FOCUS	TAN
	RIGHT	MASS	TAN
	LOBE, MEDIAN	NODULE	TAN
	RIGHT	NODULE	TAN
Observation Comment: 1 X 1 mm			
Observation Comment: anterior; 9 X 6 X 2 mm			
Observation Comment: 4 X 4 X 2 mm			
Observation Comment: 2 X 2 X 2 mm			
Observation Comment: anterior; 2 X 2 X 2 mm			
[FOCUS TGLS = TGL5]			
[MASS TGLS = TGL1]			
[NODULE TGLS = TGL3]			
[NODULE TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1210	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD420
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702505
[NODULE TGLS = TGL2]				
LUNG			FOCUS	RED
Observation Comment: multiple; up to 4 X 3 mm; affects all lobes				
[FOCUS TGLS = TGL7]				
MESENTERY			NODULE	BROWN
Observation Comment: fat; 5 X 5 X 3 mm				
[NODULE TGLS = TGL8]				
NO CORRELATE			TO OBSERVATION / MASS	
STOMACH, FORESTOMACH			NODULE	DARK
Observation Comment: 1 X 1 X 1 mm; found at trim				
[NODULE TGLS = TGL9]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1210	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD420
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702505

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ISLETS, PANCREATIC	CARCINOMA	
[CARCINOMA TGLS = TGL 8-20, Gross Finding = MESENTERY, NODULE, BROWN]		
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY HYALINE DROPLET ACCUMULATION	MINIMAL MARKED
RENAL TUBULE		
Tissue Comment: TGL 6-8, TGL 10-8		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL10-8, TGL6-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL10-8, TGL6-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]		
LIVER	CARCINOMA	METASTATIC
Tissue Comment: TGL 1-17, TGL 2-17, TGL 3-18, TGL 4-18, TGL 5-19		
Observation Comment: Primary carcinoma is in pancreatic islets		
[CARCINOMA TGLS = TGL4-18, TGL1-17, TGL2-17, TGL3-18, TGL5-19, Gross Finding = LIVER, LOBE, LEFT, FOCUS, TAN]		
[CARCINOMA TGLS = TGL4-18, TGL1-17, TGL2-17, TGL3-18, TGL5-19, Gross Finding = LIVER, LOBE, MEDIAN, NODULE, TAN]		
[CARCINOMA TGLS = TGL4-18, TGL1-17, TGL2-17, TGL3-18, TGL5-19, Gross Finding = LIVER, RIGHT, MASS, TAN]		
[CARCINOMA TGLS = TGL4-18, TGL1-17, TGL2-17, TGL3-18, TGL5-19, Gross Finding = LIVER, RIGHT, NODULE, TAN]		
LUNG	CARCINOMA	METASTATIC
Tissue Comment: TGL 7-6, TGL 7-7		
Observation Comment: Primary carcinoma is in pancreatic islets		
[CARCINOMA TGLS = TGL7-6, Gross Finding = LUNG, FOCUS, RED]		
LYMPH NODE, MEDIASTINAL	CARCINOMA	METASTATIC
Observation Comment: primary carcinoma is in pancreatic islets		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1210	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD420
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702505
STOMACH, FORESTOMACH		ULCER		MODERATE
[ULCER TGLS = TGL 9-9, Gross Finding = STOMACH, FORESTOMACH, NODULE, DARK]				
CONTRIBUTORY CAUSE OF DEATH		- ISLETS, PANCREATIC CARCINOMA		
Animal Note: Scab on dorsal skin, red ocular discharge, ruffled coat, and thinness noted at necropsy, but not correlated with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1211	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702506

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 5 X 1 mm; affects left and right caudal lung lobes [FOCUS TGLS = TGL3]		
PITUITARY GLAND	ENLARGED	TAN
Observation Comment: 5 X 6 X 1 mm [ENLARGED TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1211	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702506

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-17			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
		MIXED CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
TESTIS		INTERSTITIAL CELL ADENOMA	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1212	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD440
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702507
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND		
OBSERVATIONS				
INTESTINE, LARGE, CECUM		DISCOLORATION	DARK	
[DISCOLORATION TGLS = TGL4]				
KIDNEY, LEFT		DEFORMITY	PALE	
Observation Comment: granular				
[DEFORMITY TGLS = TGL1]				
KIDNEY, RIGHT		CYST	CLEAR	
		DEFORMITY	PALE	
Observation Comment: 5 X 5 X 4 mm				
Observation Comment: granular				
[CYST TGLS = TGL2]				
[DEFORMITY TGLS = TGL5]				
LUNG		FOCUS	DARK	
Observation Comment: multiple; up ti 7 X 7 mm; all lobes affected; dark fluid located in trachea				
[FOCUS TGLS = TGL3]				
NO CORRELATE		TO OBSERVATION / MASS		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1212	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD440
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702507
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
		PHEOCHROMOCYTOMA	BENIGN	
BRAIN		HYDROCEPHALUS		
EPIDIDYMIS		HYOSPERMIA	MODERATE	
HEART		CARDIOMYOPATHY	MINIMAL	
INTESTINE, LARGE, CECUM		NECROSIS	MODERATE	
[NECROSIS TGLS = TGL 4-10, Gross Finding = INTESTINE, LARGE, CECUM, DISCOLORATION, DARK]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-17, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL2-17, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL2-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL2-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG		HEMORRHAGE	MILD	
Tissue Comment: TGL 3-6, TGL 3-7				
[HEMORRHAGE TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, DARK]				
SEMINAL VESICLE				
Tissue Comment: Only one seminal vesicle with the slide set				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Animal Note: Soiled coat and red nasal discharge confirmed at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1213	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD386
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702508

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

AORTA		INFLAMMATION	CHRONIC, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1213

TRT#: F1-5

DOSE: 1000 mg/L

SEX: Male

REMOVAL DAY: SD386

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Found Dead

HISTO: 1702508

PRIMARY CAUSE OF DEATH

- UNDETERMINED

CONTRIBUTORY CAUSE OF DEATH

- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1214	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD554
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702509

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]			
SKELETAL MUSCLE	DIAPHRAGM	MASS	DARK
Observation Comment: 20 X 17 X 12 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1214	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD554
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702509
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE	
		PHEOCHROMOCYTOMA	BENIGN	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 2-18, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-18, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-18, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
		HEPATODIAPHRAGMATIC NODULE		
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL 1-17, Gross Finding = SKELETAL MUSCLE, DIAPHRAGM, MASS, DARK]				
PANCREAS	ACINAR CELL	ADENOMA		
	ACINUS	HYPERPLASIA	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1215	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD272
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702510

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DISCOLORATION	DARK
[DISCOLORATION TGLS = TGL1]		
KIDNEY, RIGHT	DISCOLORATION	DARK
[DISCOLORATION TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

ANIMAL ID: 1215	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD272
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702510
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
EYE	LYMPH NODE			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DISCOLORATION, DARK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DISCOLORATION, DARK]				
LYMPH NODE, MESENTERIC		INFILTRATION CELLULAR	HISTIOCYTE, MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Nasal red discharge noted at necropsy, but did not correlate with any gross finding.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1216	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702511

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1216	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD437
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702511
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
INTESTINE, LARGE, CECUM	LYMPH NODE			
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MODERATE	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1217	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD448
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702512

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular (granulated)		
[DEFORMITY TGLS = TGL3]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular (granulated)		
[DEFORMITY TGLS = TGL1]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 2 X 1 mm; affects all lobes		
[FOCUS TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1217	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD448
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702512
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MARKED	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG		HEMORRHAGE	MILD	
	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MILD	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red eye discharge, thinness, hunched posture, and pallor confirmed at necropsy, but not correlated with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1218	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD423
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702513

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TRACHEA	TRIGEMINAL GANGLION	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
TONGUE	DORSAL	MASS	WHITE
Observation Comment: 6 X 5 X 2 mm [MASS TGLS = TGL4]			
URINARY BLADDER		DILATION	RED
Observation Comment: 20 X 12 X 11 mm [DILATION TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1218	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD423
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702513
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	VENULE	THROMBUS		
Tissue Comment: TGL 1-17, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
TONGUE	SQUAMOUS EPITHELIUM	PAPILLOMA		
[PAPILLOMA TGLS = TGL 4-18, Gross Finding = TONGUE, DORSAL, MASS, WHITE]				
URINARY BLADDER		HEMORRHAGE	MILD	
[HEMORRHAGE TGLS = TGL 3-8, Gross Finding = URINARY BLADDER, DILATION, RED]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat, thinness, and red eye discharge were confirmed at necropsy, but not correlated with any specific gross findings.				

ANIMAL ID: 1219	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD224
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702514

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SKIN	SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

MISSING

INTESTINE, LARGE, COLON	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	PANCREAS
SPLEEN			

OBSERVATIONS

INTESTINE, LARGE, COLON			
Tissue Comment: Cannibalized			
INTESTINE, SMALL, ILEUM			
Tissue Comment: Cannibalized			
INTESTINE, SMALL, JEJUNUM			
Tissue Comment: Cannibalized			
KIDNEY, LEFT		MASS	TAN
Tissue Comment: Partly cannibalized			
Observation Comment: 60 X 40 X 25 mm; partial cannabilization of urinary bladder, skin/mammary gland and left kidney was noted			
[MASS TGLS = TGL1]			
MAMMARY GLAND			
Tissue Comment: Partly cannibalized			
NO CORRELATE		TO OBSERVATION / MASS	
PANCREAS			
Tissue Comment: Cannibalized			
SKIN			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1219	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD224
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702514

Tissue Comment: Partly cannibalized

SPLEEN

Tissue Comment: Cannibalized

URINARY BLADDER

Tissue Comment: Partly cannibalized

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND

AORTA

BONE MARROW

BONE, FEMUR

BRAIN

EPIDIDYMIS

ESOPHAGUS

EYE

HARDERIAN GLAND

HEART

LIVER

LUNG

LYMPH NODE, MANDIBULAR

MAMMARY GLAND

NOSE

PARATHYROID GLAND

PITUITARY GLAND

PROSTATE

SALIVARY GLAND

SEMINAL VESICLE

SKIN

TESTIS

THYMUS

THYROID GLAND

TRACHEA

AUTOLYSIS PRECLUDES EVALUATION

INTESTINE, LARGE, CECUM

INTESTINE, LARGE, COLON

INTESTINE, LARGE, RECTUM

INTESTINE, SMALL, DUODENUM

INTESTINE, SMALL, ILEUM

INTESTINE, SMALL, JEJUNUM

STOMACH, FORESTOMACH

STOMACH, GLANDULAR

NOT PRESENT

LYMPH NODE

LYMPH NODE, MESENTERIC

PANCREAS

SPLEEN

URINARY BLADDER

OBSERVATIONS

ADRENAL GLAND

Tissue Comment: Only one adrenal medulla in slide set

KIDNEY

CHRONIC PROGRESSIVE NEPHROPATHY

MINIMAL

MESENCHYMAL TUMOR

MALIGNANT

[MESENCHYMAL TUMOR TGLS = TGL 1-17, Gross Finding = KIDNEY, LEFT, MASS, TAN]

PREPUTIAL GLAND

INFLAMMATION

SUPPURATIVE, MILD

CONTRIBUTORY CAUSE OF DEATH

- KIDNEY MESENCHYMAL TUMOR MALIGNANT

Animal Note: Ruffled coat and cannibalization were confirmed at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1220	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD326
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702515

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
THORAX	FLUID	CLEAR
Observation Comment: approximately 5 ml [FLUID TGLS = TGL2]		

ANIMAL ID: 1220	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD326
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702515
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Nasal discharge, ruffled coat, and pallor were confirmed at necropsy, but did not correlate with any specific gross findings.				

ANIMAL ID: 1221	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD358
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702516
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE	
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS	
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION	
URINARY BLADDER	ZYMBALS GLAND			
OBSERVATIONS				
MAMMARY GLAND	RIGHT, THORACIC	NODULE	MOTTLED	
Observation Comment: 5 X 5 X 5 mm				
[NODULE TGLS = TGL1]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1221	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD358
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702516
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
SKIN		KERATOACANTHOMA	MULTIPLE	
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, NODULE, MOTTLED]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1222	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD483
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702517

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

AORTA	DILATION	
Observation Comment: 2 X expected width [DILATION TGLS = TGL5]		
KIDNEY, LEFT	DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
KIDNEY, RIGHT	DEFORMITY	DARK
Observation Comment: granular [DEFORMITY TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1222	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD483
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702517
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MARKED	
[MINERAL TGLS = TGL 5-17, Gross Finding = AORTA, DILATION,]				
EPIDIDYMIS		HYOSPERMIA	MARKED	
EYE	ANTERIOR CHAMBER	INFLAMMATION	SUPPURATIVE, MILD	
	CORNEA	INFLAMMATION	SUPPURATIVE, MILD	
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DARK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DARK]				
LUNG	INTERSTITIUM	MINERAL	MILD	
PREPUTIAL GLAND				
Tissue Comment: Only one preputial gland with slide set				
SEMINAL VESICLE		MINERAL	MILD	
SPLEEN	WHITE PULP	ATROPHY	MODERATE	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
Tissue Comment: TGL 1-14, TGL 2-14				
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1222

TRT#: F1-5

DOSE: 1000 mg/L

SEX: Male

REMOVAL DAY: SD483

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702517

Animal Note: Stained anus noted at necropsy, but did not correlate with any specific gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1223	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD589
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702518

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1223	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD589
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702518
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MILD	
EPIDIDYMIS		HYOSPERMIA	MARKED	
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MILD	
LYMPH NODE, MANDIBULAR		INFLAMMATION	SUPPURATIVE, MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MARKED	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge, pallor, and thinness confirmed at necropsy, but not correlated with any specific gross finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1224	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD626
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702519

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

EPIDIDYMIS, LEFT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL4]		
EPIDIDYMIS, RIGHT	SMALL	
Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]		
KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL6]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]		
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]		
TESTIS, RIGHT	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1224	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD626
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702519

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS
EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
AORTA		MINERAL	MODERATE
EPIDIDYMIS		HYOSPERMIA	MARKED
Tissue Comment: TGL 3-14, TGL 4-14			
[HYOSPERMIA TGLS = TGL4-14, TGL3-14, Gross Finding = EPIDIDYMIS, LEFT, SMALL,]			
[HYOSPERMIA TGLS = TGL4-14, TGL3-14, Gross Finding = EPIDIDYMIS, RIGHT, SMALL,]			
HEART		CARDIOMYOPATHY	MILD
		MINERAL	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 5-8, TGL 6-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LIVER		FATTY CHANGE	FOCAL, MINIMAL
	BILE DUCT	HYPERPLASIA	MINIMAL
PANCREAS	ACINUS	ATROPHY	MINIMAL
	ACINUS	HYPERPLASIA	MODERATE
SPLEEN	WHITE PULP	ATROPHY	MODERATE
STOMACH, GLANDULAR		MINERAL	MODERATE
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED
Tissue Comment: TGL 1-14, TGL 2-14			
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1224	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD626
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702519
[DEGENERATION TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness confirmed at necropsy, but did not correlate with any gross finding				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1225	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD574
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702520

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		CYST DEFORMITY	CLEAR PALE
Observation Comment: 7 X 5 X 4 mm			
Observation Comment: granular			
[CYST TGLS = TGL2]			
[DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.5 X expected size			
[SMALL TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1225	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD574
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702520
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MARKED	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MODERATE	
INTESTINE, LARGE, CECUM		ULCER	MODERATE	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
SEMINAL VESICLE		ATROPHY	MODERATE	
[ATROPHY TGLS = TGL 1-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1226	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD335
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702521

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
STOMACH, FORESTOMACH	NODULE	
Observation Comment: 5 X 5 X 1 mm; found at trim [NODULE TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1226	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD335
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702521
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	EPIDIDYMIS	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
AORTA		MINERAL	MODERATE	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MILD	
PANCREAS	ACINUS	ATROPHY	MILD	
STOMACH, FORESTOMACH		HYPERKERATOSIS	MILD	
		MINERAL	MILD	
[HYPERKERATOSIS TGLS = TGL 2-9, Gross Finding = STOMACH, FORESTOMACH, NODULE,]				
STOMACH, GLANDULAR		MINERAL	MODERATE	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			
Animal Note: Thinness and nasal discharge were noted at necropsy, but not correlated with any specific necrospy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1227	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702522

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL5]			
LUNG	RIGHT	FOCUS	TAN
Observation Comment: multiple; 2 X 1 mm; found at trim [FOCUS TGLS = TGL2]			
LYMPH NODE, MANDIBULAR		ENLARGED	TAN
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN		MASS	TAN
Observation Comment: 16 X 10 X 8 mm; found at trim [MASS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1227	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702522
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	PANCREAS	PARATHYROID GLAND	
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-18, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL3-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL3-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
[INFILTRATION CELLULAR TGLS = TGL 2-7, Gross Finding = LUNG, RIGHT, FOCUS, TAN]				
LYMPH NODE, MANDIBULAR	LYMPHATIC, SINUS	ECTASIA	MILD	
[ECTASIA TGLS = TGL 1-12, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
SKIN		KERATOACANTHOMA		
[KERATOACANTHOMA TGLS = TGL 4-17, Gross Finding = SKIN, MASS, TAN]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

ANIMAL ID: 1228	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702523

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1228	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702523

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	SEMINAL VESICLE
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		EOSINOPHILIC FOCUS	MULTIPLE
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MILD
	PARS INTERMEDIA	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
THYROID GLAND	C-CELL	ADENOMA	
	C-CELL	HYPERPLASIA	MODERATE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1229	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD288
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702524

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, ILEUM	KIDNEY, LEFT
KIDNEY, RIGHT	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

INTESTINE, SMALL, DUODENUM Observation Comment: up to 25 mm; located proximal to TGL 1 [DILATION TGLS = TGL2]	DILATION	
INTESTINE, SMALL, JEJUNUM Observation Comment: up to 25 mm; located proximal to TGL 1 Observation Comment: 43 X 33 X 22 mm; gelatinous [DILATION TGLS = TGL4] [MASS TGLS = TGL1]	DILATION MASS	TAN
LIVER Observation Comment: all lobes affected [DISCOLORATION TGLS = TGL3]	DISCOLORATION	DIFFUSE, PALE
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1229	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD288
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702524

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM	ADENOCARCINOMA	
Tissue Comment: TGL 1-17, TGL 2-18, TGL 4-17		
[ADENOCARCINOMA TGLS = TGL2-18, TGL4-17, TGL1-17, Gross Finding = INTESTINE, SMALL, DUODENUM, DILATION,]		
[ADENOCARCINOMA TGLS = TGL2-18, TGL4-17, TGL1-17, Gross Finding = INTESTINE, SMALL, JEJUNUM, DILATION,]		
[ADENOCARCINOMA TGLS = TGL2-18, TGL4-17, TGL1-17, Gross Finding = INTESTINE, SMALL, JEJUNUM, MASS, TAN]		
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	NECROSIS	MINIMAL
LIVER	HYPERPLASIA	MODERATE
[HYPERPLASIA TGLS = TGL 3-12, Gross Finding = LIVER, DISCOLORATION, DIFFUSE, PALE]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD

CONTRIBUTORY CAUSE OF DEATH	- INTESTINE, SMALL, JEJUNUM ADENOCARCINOMA

Animal Note: Pallor, thinness and ruffled coat were seen at necropsy, but did not correlate with any specific necropsy findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1230	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD396
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702525

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]			
THYROID GLAND	BILATERAL	ENLARGED	
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1230	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD396
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702525
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
ISLETS, PANCREATIC		ADENOMA		
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 2-17, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-17, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-17, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
THYROID GLAND	FOLLICLES, EPITHELIUM	HYPERPLASIA	BILATERAL, MILD	
	FOLLICULAR CELL, BILATERAL	HYPERTROPHY	MILD	
[HYPERTROPHY TGLS = TGL 1-11, Gross Finding = THYROID GLAND, BILATERAL, ENLARGED,]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1231	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD552
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702526

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1231	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD552
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702526
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
AUTOLYSIS PRECLUDES EVALUATION				
INTESTINE, SMALL, ILEUM				
NOT PRESENT				
LYMPH NODE	PITUITARY GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

ANIMAL ID: 1232	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD385
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702527

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

ANIMAL ID: 1232	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD385
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702527
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	EPIDIDYMIS	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
STOMACH, FORESTOMACH	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MARKED	
BRAIN	MENINGES	INFLAMMATION	CHRONIC, MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	INTERSTITIUM	MINERAL	MINIMAL	
PITUITARY GLAND	FOLLICLES	ECTOPIC TISSUE	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, GLANDULAR		MINERAL	MODERATE	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, pallor, and ruffled coat were seen at necropsy, but did not correlate with any gross lesions.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1233	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD485
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702528

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, LARGE, CECUM		DISCOLORATION	PALE
Observation Comment: dark digesta present throughout digestive tract [DISCOLORATION TGLS = TGL6]			
KIDNEY, LEFT		CYST DEFORMITY	CLEAR MOTTLED
Observation Comment: multiple; up to 3 mm diameter Observation Comment: granular [CYST TGLS = TGL3] [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	MOTTLED
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
LUNG	LOBE, LEFT RIGHT LOBE	FOCUS FOCUS	THREE, WHITE THREE, WHITE
Observation Comment: up to 2 X 2 mm Observation Comment: caudal; up to 1 X 1 mm [FOCUS TGLS = TGL4] [FOCUS TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1233	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD485
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702528
STOMACH, GLANDULAR		THICK	PALE	
Observation Comment: 2 X expected thickness; dark digesta present throughout digestive tract				
[THICK TGLS = TGL7]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1233	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD485
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702528
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MODERATE	
[MINERAL TGLS = TGL 6-10, Gross Finding = INTESTINE, LARGE, CECUM, DISCOLORATION, PALE]				
INTESTINE, LARGE, RECTUM	SUBMUCOSA	EDEMA	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, MOTTLED]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, MOTTLED]				
LIVER		CLEAR CELL FOCUS		
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, Gross Finding = LUNG, LOBE, LEFT, FOCUS, THREE, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, Gross Finding = LUNG, RIGHT LOBE, FOCUS, THREE, WHITE]				
PANCREAS	ACINUS	ATROPHY	MINIMAL	
PROSTATE		INFLAMMATION	CHRONIC, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MODERATE	
[MINERAL TGLS = TGL 7-9, Gross Finding = STOMACH, GLANDULAR, THICK, PALE]				
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

ANIMAL ID: 1234	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702529

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

ANIMAL ID: 1234	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702529
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
INTESTINE, LARGE, CECUM	LYMPH NODE			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
NOSE	SINUS	INFLAMMATION	CHRONIC, MILD	
THYROID GLAND	C-CELL, BILATERAL	ADENOMA		
Animal Note: Red ocular discharge (left) confirmed at necropsy, but not correlated with any gross finding.				

ANIMAL ID: 1235	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD591
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702530

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1235	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD591
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702530
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	THYMUS	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA	BILATERAL	PHEOCHROMOCYTOMA	BENIGN	
AORTA		MINERAL	MODERATE	
EPIDIDYMIS		HYOSPERMIA	MILD	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MINIMAL	
INTESTINE, LARGE, CECUM		MINERAL	MARKED	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	MINERAL	MILD	
PREPUTIAL GLAND				
Tissue Comment: One preputial gland missing from slide set				
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
THYROID GLAND	C-CELL	ADENOMA		
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Coat ruffled, coat soiling, pallor and thinness noted at necropsy, but not correlated with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1236	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD494
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702531

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND	BILATERAL	DISCOLORATION	DARK
Observation Comment: found at trim [DISCOLORATION TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]			
LUNG		FOCUS	DARK
Observation Comment: multiple; largest measuring 8 X 5 mm; affects all lobes; found at trim [FOCUS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1236	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD494
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702531
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL GLAND		THROMBUS		
[THROMBUS TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, BILATERAL, DISCOLORATION, DARK]				
EYE	CORNEA	INFLAMMATION	CHRONIC, MODERATE	
INTESTINE, LARGE, CECUM		MINERAL	MARKED	
INTESTINE, SMALL, ILEUM		MINERAL	MODERATE	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8 TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		FATTY CHANGE	FOCAL, MINIMAL	
LUNG		HEMORRHAGE	MILD	
Tissue Comment: TGL 4-6, TGL 4-7				
[HEMORRHAGE TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, DARK]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1237	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD445
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702532

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY
Observation Comment: granular		
[DEFORMITY TGLS = TGL5]		
KIDNEY, RIGHT		DEFORMITY
Observation Comment: granular		
[DEFORMITY TGLS = TGL4]		
NO CORRELATE		TO OBSERVATION / MASS
SEMINAL VESICLE	BILATERAL	SMALL
Observation Comment: 0.5 X expected size		
[SMALL TGLS = TGL3]		
TESTIS, LEFT		SMALL
Observation Comment: 0.5 X expected size		
[SMALL TGLS = TGL2]		
TESTIS, RIGHT		SMALL
Observation Comment: 0. 5 X expected size		
[SMALL TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1237	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD445
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702532

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
EPIDIDYMIS		HYOSPERMIA	MARKED
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 4-8, TGL 5-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MODERATE
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
SEMINAL VESICLE	BILATERAL	ATROPHY	MODERATE
[ATROPHY TGLS = TGL 3-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]			
TESTIS	GERMINAL EPITHELIUM	ATROPHY	MARKED
	GERMINAL EPITHELIUM	DEGENERATION	MILD

Tissue Comment: TGL 1-14, TGL 2-14

[ATROPHY TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, LEFT, SMALL,]

[ATROPHY TGLS = TGL2-14, TGL1-14, Gross Finding = TESTIS, RIGHT, SMALL,]

[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]

[DEGENERATION TGLS = TGL1-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Ruffled coat, thinness, and pallor noted at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1238	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD458
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702533

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, LARGE, CECUM [DISCOLORATION TGLS = TGL5]	MUCOSA	DISCOLORATION	WHITE
KIDNEY, LEFT Observation Comment: granular [DEFORMITY TGLS = TGL3]		DEFORMITY	
KIDNEY, RIGHT Observation Comment: granular [DEFORMITY TGLS = TGL4]		DEFORMITY	
LUNG Observation Comment: affects all lobes [DISCOLORATION TGLS = TGL2]		DISCOLORATION	DIFFUSE, RED
NO CORRELATE		TO OBSERVATION / MASS	
SEMINAL VESICLE Observation Comment: 0.5 X expected size [SMALL TGLS = TGL1]	BILATERAL	SMALL	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1238	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD458
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702533
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	ESOPHAGUS	
EYE	HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE	MAMMARY GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
AORTA		MINERAL	MARKED	
EPIDIDYMIS		HYOSPERMIA	MILD	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
[MINERAL TGLS = TGL 5-10, Gross Finding = INTESTINE, LARGE, CECUM, MUCOSA, DISCOLORATION, WHITE]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LUNG	INTERSTITIUM	MINERAL	MODERATE	
Tissue Comment: TGL 2-6, TGL 2-7				
[MINERAL TGLS = TGL2-6, Gross Finding = LUNG, DISCOLORATION, DIFFUSE, RED]				
SEMINAL VESICLE		ATROPHY	MILD	
[ATROPHY TGLS = TGL 1-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Animal Note: Liquid feces and thinness were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1239	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD618
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702534

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
LYMPH NODE	LUMBAR	CYST	CLEAR
Observation Comment: 11 X 6 X 5 mm [CYST TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1239	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD618
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702534

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS
TRACHEA	URINARY BLADDER		

NOT PRESENT

PARATHYROID GLAND

OBSERVATIONS

HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LYMPH NODE	LUMBAR, SINUS	ECTASIA	LYMPHATIC, MARKED
[ECTASIA TGLS = TGL 3-17, Gross Finding = LYMPH NODE, LUMBAR, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Pallor and red nasal discharge were seen at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1240	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD458
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702535

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

INTESTINE, LARGE, CECUM Observation Comment: multiple; up to 8 X 3 mm [CRUST TGLS = TGL6]	CRUST	WHITE
KIDNEY, LEFT Observation Comment: granular [DEFORMITY TGLS = TGL1]	DEFORMITY	
KIDNEY, RIGHT Observation Comment: up to 6 X 6 X 6 mm Observation Comment: granular [CYST TGLS = TGL5] [DEFORMITY TGLS = TGL2]	CYST DEFORMITY	CLEAR, TWO
NO CORRELATE	TO OBSERVATION / MASS	
TESTIS, LEFT Observation Comment: 0.5 X expected size [SMALL TGLS = TGL3]	SMALL	
TESTIS, RIGHT Observation Comment: 0. 5 X expected size [SMALL TGLS = TGL4]	SMALL	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1240	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD458
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702535
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE	MAMMARY GLAND	SKIN	THYMUS	
OBSERVATIONS				
AORTA		MINERAL	MODERATE	
EPIDIDYMIS		HYOSPERMIA	MODERATE	
HEART		MINERAL	MINIMAL	
INTESTINE, LARGE, CECUM		MINERAL	MARKED	
[MINERAL TGLS = TGL 6-10, Gross Finding = INTESTINE, LARGE, CECUM, CRUST, WHITE]				
INTESTINE, LARGE, COLON		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
	RENAL TUBULE	HYPERPLASIA	ATYPICAL, MINIMAL	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 5-17				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL5-17, TGL1-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL5-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR, TWO]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL5-17, TGL1-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LUNG	INTERSTITIUM	MINERAL	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MODERATE	
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MODERATE	
Tissue Comment: TGL 3-14, TGL 4-14				
[DEGENERATION TGLS = TGL4-14, TGL3-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[DEGENERATION TGLS = TGL4-14, TGL3-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Thinness, soft feces, red nasal discharge, and ruffled coat were seen at necropsy, but did not correlate with any specific necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1241	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD373
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702536

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
LYMPH NODE, MANDIBULAR	LEFT	ENLARGED	TAN
Observation Comment: 20 X expected size [ENLARGED TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, HINDLIMB	ACCUMULUATION	
	LEFT, HINDLIMB	ENLARGED	
Observation Comment: foot; observed by pathologist to be consistent with subcutaneous edema			
Observation Comment: 2X; foot; hind foot swelling due to edema [ACCUMULUATION TGLS = TGL4] [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1241	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD373
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702536
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 2-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL5-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
SKIN	SUBCUTANEOUS TISSUE	INFLAMMATION	CHRONIC, MILD	
	SUBCUTANEOUS TISSUE	INFLAMMATION	SUPPURATIVE, MARKED	
Tissue Comment: TGL 1-17, TGL 3-18				
[INFLAMMATION TGLS = TGL3-18, Gross Finding = SKIN, LEFT, HINDLIMB, ENLARGED,]				
[INFLAMMATION TGLS = TGL1-17, Gross Finding = LYMPH NODE, MANDIBULAR, LEFT, ENLARGED, TAN]				
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Nasal discharge (red) and ruffled coat were noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1242	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD407
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702537

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLAND	SEMINAL VESICLE	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER

NOT PRESENT

EYE	LYMPH NODE		

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
		MIXED CELL FOCUS	MULTIPLE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1242	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD407
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702537
PRIMARY CAUSE OF DEATH		- UNDETERMINED		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1243	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD481
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702538

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, GLANDULAR	TESTIS, LEFT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	DARK
Observation Comment: granular			
[DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	DARK
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
LIVER	BILE DUCT	ENLARGED	
Observation Comment: 10 mm diameter			
[ENLARGED TGLS = TGL4]			
STOMACH, FORESTOMACH		NODULE	TAN, TWO
Observation Comment: up to 2 X 2 X 1 mm; found at trim			
[NODULE TGLS = TGL5]			
TESTIS, RIGHT		SMALL	
Observation Comment: 0.5 X expected size			
[SMALL TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1243	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD481
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702538
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PARATHYROID GLAND	
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SKIN	SPLEEN	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EPIDIDYMIS		HYOSPERMIA	MILD	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DARK]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DARK]				
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
[HYPERPLASIA TGLS = TGL 4-17, Gross Finding = LIVER, BILE DUCT, ENLARGED,]				
PANCREAS	ACINUS	ATROPHY	MILD	
STOMACH, FORESTOMACH		HYPERKERATOSIS	MODERATE	
[HYPERKERATOSIS TGLS = TGL 5-9, Gross Finding = STOMACH, FORESTOMACH, NODULE, TAN, TWO]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	DEGENERATION	MARKED	
[DEGENERATION TGLS = TGL 1-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
INTERSTITIAL CELL ADENOMA				
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1244	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702539

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT
TESTIS, RIGHT	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]		
KIDNEY, RIGHT	DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]		
PANCREAS	MASS	BROWN
Observation Comment: 20 X 12 X 10 mm [MASS TGLS = TGL1]		
THORAX	ACCUMULUATION	PINK
Observation Comment: Approximately 3 ml [ACCUMULUATION TGLS = TGL4]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1244	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702539

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SKIN	STOMACH, FORESTOMACH
TESTIS	THYMUS	TRACHEA	URINARY BLADDER

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
		PHEOCHROMOCYTOMA	BENIGN
HEART		CARDIOMYOPATHY	MINIMAL
ISLETS, PANCREATIC		ADENOMA	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
PANCREAS	DUCT	CYST	
[CYST TGLS = TGL 1-17, Gross Finding = PANCREAS, MASS, BROWN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
STOMACH, GLANDULAR		NECROSIS	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1245	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD636
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702540

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

LYMPH NODE, MANDIBULAR		ENLARGED	DARK
Observation Comment: 2 X expected size; found at trim [ENLARGED TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 10 X 8 X 1 mm; ulcerated [MASS TGLS = TGL1]			

ANIMAL ID: 1245	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD636
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702540
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PREPUTIAL GLAND	PROSTATE	SALIVARY GLAND	
SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TESTIS	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER				
NOT PRESENT				
ADRENAL GLAND	LYMPH NODE	PARATHYROID GLAND	PITUITARY GLAND	
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LYMPH NODE, MANDIBULAR		CONGESTION	MILD	
[CONGESTION TGLS = TGL 2-12, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, DARK]				
SKIN		KERATOACANTHOMA		
[KERATOACANTHOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, THORACIC, MASS, MOTTLED]				
THYROID GLAND				
Tissue Comment: Only one thyroid gland in slide set				
PRIMARY CAUSE OF DEATH - UNDETERMINED				
Animal Note: Red ocular discharge was noted at necropsy, but did not correlate with any gross lesion.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1246	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702541

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND
PROSTATE	SALIVARY GLANDS	SEMINAL VESICLE	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
TESTIS, LEFT	TESTIS, RIGHT	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT	CYST DEFORMITY	CLEAR PALE
Observation Comment: 3 X 2 X 1 mm Observation Comment: granular [CYST TGLS = TGL5] [DEFORMITY TGLS = TGL1]		
KIDNEY, RIGHT	CYST DEFORMITY	CLEAR PALE
Observation Comment: 2 X 2 X 2 mm Observation Comment: 8 X 7 X 4 mm Observation Comment: granular [CYST TGLS = TGL4] [CYST TGLS = TGL3] [DEFORMITY TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	

ANIMAL ID: 1246	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702541
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	
SALIVARY GLAND	SEMINAL VESICLE	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN		HYDROCEPHALUS	MINIMAL	
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8, TGL 3-8, TGL 4-17, TGL 5-18				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL1-8, TGL2-8, TGL3-8, TGL5-18, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL1-8, TGL2-8, TGL3-8, TGL5-18, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL1-8, TGL2-8, TGL3-8, TGL5-18, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-17, TGL1-8, TGL2-8, TGL3-8, TGL5-18, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	HYPERPLASIA	MILD	
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Red nasal discharge, thinness, and ruffled coat were noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1247	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702542

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLANDS	SEMINAL VESICLE	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	DIFFUSE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	DIFFUSE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LIVER		FOCUS	TAN
Observation Comment: multiple; 1x1mm; affects all lobes; found at trim [FOCUS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	DORSAL	MASS	TAN
Observation Comment: 10 X 6 X 4 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1247	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702542

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	EPIDIDYMIS	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART	CARDIOMYOPATHY	MINIMAL
ISLETS, PANCREATIC	ADENOMA	
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 3-8, TGL 4-8		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, DIFFUSE]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, DIFFUSE]		
LIVER	CLEAR CELL FOCUS	MULTIPLE
[CLEAR CELL FOCUS TGLS = TGL 2-12, Gross Finding = LIVER, FOCUS, TAN]		
SKIN	DERMIS	INFLAMMATION
[INFLAMMATION TGLS = TGL 1-17, Gross Finding = SKIN, DORSAL, MASS, TAN]		
[INFLAMMATION TGLS = TGL 1-17, Gross Finding = SKIN, DORSAL, MASS, TAN]		

Animal Note: Nasal and ocular discharge noted at necropsy, but not correlated with any gross lesions.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1248	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702543

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PREPUTIAL GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL1]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 5 X 4 X 3 mm [CYST TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	
PROSTATE		DISCOLORATION	GREEN
Observation Comment: 13 X 9 mm [DISCOLORATION TGLS = TGL3]			
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.25 X [SMALL TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1248	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702543
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
EPIDIDYMIS	ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	PANCREAS	PARATHYROID GLAND	PREPUTIAL GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	TESTIS	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
EYE	CORNEA	INFLAMMATION	CHRONIC, MINIMAL	
HEART		CARDIOMYOPATHY	MODERATE	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	CYST		
	BILE DUCT	HYPERPLASIA	MINIMAL	
[CYST TGLS = TGL 5-17, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
PROSTATE	ACINUS	ATROPHY	MILD	
[ATROPHY TGLS = TGL 3-16, Gross Finding = PROSTATE, DISCOLORATION, GREEN]				
SEMINAL VESICLE		ATROPHY	MODERATE	
[ATROPHY TGLS = TGL 4-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH - KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat, nasal and eye discharge, paleness, urogenital prolapse, and thinness noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1249	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD599
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702544

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	PROSTATE	SALIVARY GLANDS
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND	RIGHT	MASS	MOTTLED
Observation Comment: 10 X9 X 9 mm [MASS TGLS = TGL7]			
KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
PREPUTIAL GLAND	LEFT	NODULE	TAN
Observation Comment: 6 X 5 X 5 mm; found at trim [NODULE TGLS = TGL8]			
SEMINAL VESICLE	BILATERAL	SMALL	
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL6]			
SKIN	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 34 X 28 X 15 mm [MASS TGLS = TGL1]			
TESTIS, LEFT		SMALL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1249	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD599
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702544
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL3]				
TESTIS, RIGHT		SMALL		
Observation Comment: 0.25 X expected size [SMALL TGLS = TGL2]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1249	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD599
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702544
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR		BRAIN
ESOPHAGUS	HARDERIAN GLAND	INTESTINE, LARGE, CECUM		INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM		INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC		MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND		PITUITARY GLAND
PROSTATE	SALIVARY GLAND	SPLEEN		STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND		TRACHEA
URINARY BLADDER				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX	BILATERAL	ADENOMA		
[ADENOMA TGLS = TGL 7-11, Gross Finding = ADRENAL GLAND, RIGHT, MASS, MOTTLED]				
EPIDIDYMIS		HYOSPERMIA		MARKED
EYE	CORNEA	INFLAMMATION		CHRONIC, MINIMAL
HEART		CARDIOMYOPATHY		MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY		MARKED
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	INTERSTITIUM	INFLAMMATION		CHRONIC, MILD
PREPUTIAL GLAND	DUCT	DILATION		MILD
[DILATION TGLS = TGL 8-15, Gross Finding = PREPUTIAL GLAND, LEFT, NODULE, TAN]				
SEMINAL VESICLE		ATROPHY		MARKED
[ATROPHY TGLS = TGL 6-16, Gross Finding = SEMINAL VESICLE, BILATERAL, SMALL,]				
SKIN		BASAL CELL ADENOMA		
[BASAL CELL ADENOMA TGLS = TGL 1-17, Gross Finding = SKIN, RIGHT, ABDOMINAL, MASS, TAN]				
TESTIS	GERMINAL EPITHELIUM, BILATERAL	ATROPHY		MARKED
Tissue Comment: TGL 2-14, TGL 3-14				
[ATROPHY TGLS = TGL3-14, TGL2-14, Gross Finding = TESTIS, LEFT, SMALL,]				
[ATROPHY TGLS = TGL3-14, TGL2-14, Gross Finding = TESTIS, RIGHT, SMALL,]				
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1249	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD599
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702544
Animal Note: Thinness, ruffled coat, and pallor were noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1250	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702545

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	EPIDIDYMIS, LEFT	EPIDIDYMIS, RIGHT	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE	SALIVARY GLANDS
SEMINAL VESICLE	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	TESTIS, LEFT	TESTIS, RIGHT	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
SKIN	LEFT, PAW	CRUST	GREEN
	RIGHT, PAW	CRUST	TAN
Observation Comment: hind; 13 X 11 mm			
Observation Comment: hind; 3 X 3 mm			
[CRUST TGLS = TGL1]			
[CRUST TGLS = TGL2]			
TESTES		DEFORMITY	MOTTLED
Observation Comment: unilateral; found at trim			
[DEFORMITY TGLS = TGL3]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1250	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Male	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702545

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
EPIDIDYMIS	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	PREPUTIAL GLAND	PROSTATE
SALIVARY GLAND	SEMINAL VESICLE	STOMACH, FORESTOMACH	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA	HYPERPLASIA	FOCAL, MILD
HEART	CARDIOMYOPATHY	MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER	CLEAR CELL FOCUS	MULTIPLE
SKIN	ULCER	MODERATE
Tissue Comment: TGL 1-17, TGL 2-17		
[ULCER TGLS = TGL2-17, TGL1-17, Gross Finding = SKIN, LEFT, PAW, CRUST, GREEN]		
[ULCER TGLS = TGL2-17, TGL1-17, Gross Finding = SKIN, RIGHT, PAW, CRUST, TAN]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
STOMACH, GLANDULAR	MINERAL	MILD
TESTIS	INTERSTITIAL CELL ADENOMA	
[INTERSTITIAL CELL ADENOMA TGLS = TGL 3-14, Gross Finding = TESTES, DEFORMITY, MOTTLED]		

ANIMAL ID: 1251	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD307
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702641

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

EYE			
Tissue Comment: Right eye unavailable; cannibalized			
HARDERIAN GLAND			
Tissue Comment: Right Harderian unavailable; cannibalized			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 10 X 10 X 8 mm			
[ENLARGED TGLS = TGL1]			
SKIN			
Tissue Comment: Facial skin partly cannibalized and right eye and right Harderian gland completely cannibalized			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1251	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD307
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702641
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
EYE				
Tissue Comment: One eye was missing (cannibalized)				
HARDERIAN GLAND				
Tissue Comment: One Harderian gland was missing (cannibalized)				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Confirmed partial cannibalization at necropsy, but does not correlate with any gross finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1252	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD560
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702642

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

ABDOMEN	ACCUMULUATION	CLEAR
Observation Comment: approximately 5 ml [ACCUMULUATION TGLS = TGL1]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; all lung lobes affected [FOCUS TGLS = TGL4]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	RED
Observation Comment: 5 X 5 X 3 mm [ENLARGED TGLS = TGL2]		
SPLEEN	ENLARGED	RED
Observation Comment: 56 X 17 X 17 mm; mesentery adhered to spleen and pancreas [ENLARGED TGLS = TGL3]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1252	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD560
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702642

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
NOSE	PARATHYROID GLAND	SKIN	THYROID GLAND
TRACHEA	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		DEGENERATION	CYSTIC, MILD
CLITORAL GLAND		LYMPHOMA	MALIGNANT
HARDERIAN GLAND		LYMPHOMA	MALIGNANT
INTESTINE, LARGE, COLON		LYMPHOMA	MALIGNANT
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
		LYMPHOMA	MALIGNANT
LIVER		LYMPHOMA	MALIGNANT
LUNG		LYMPHOMA	MALIGNANT
Tissue Comment: TGL 4-6, TGL 4-7			
[LYMPHOMA TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
LYMPH NODE, MANDIBULAR		LYMPHOMA	MALIGNANT
LYMPH NODE, MESENTERIC		LYMPHOMA	MALIGNANT
MAMMARY GLAND	DUCT	DILATION	MILD
		LYMPHOMA	MALIGNANT
OVARY		LYMPHOMA	MALIGNANT
PANCREAS		LYMPHOMA	MALIGNANT
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
SALIVARY GLAND		LYMPHOMA	MALIGNANT
SPLEEN		LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 3-8, Gross Finding = SPLEEN, ENLARGED, RED]			
STOMACH, FORESTOMACH		LYMPHOMA	MALIGNANT
STOMACH, GLANDULAR		LYMPHOMA	MALIGNANT
THYMUS		LYMPHOMA	MALIGNANT

ANIMAL ID: 1252	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD560
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702642
URINARY BLADDER		LYMPHOMA		MALIGNANT
UTERUS		LYMPHOMA		MALIGNANT
	ENDOMETRIUM	METAPLASIA		SQUAMOUS, MILD
UTERUS, CERVIX		LYMPHOMA		MALIGNANT
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- SPLEEN LYMPHOMA MALIGNANT			
Animal Note: Distended abdomen, pallor, confirmed at necropsy, but these findings not correlated with any specific necropsy findings.				

ANIMAL ID: 1253	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD536
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702643

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	RED
Observation Comment: 10 X 5 X 5 mm		
[ENLARGED TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1253	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD536
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702643
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
NOT PRESENT				
LYMPH NODE	VAGINA			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE	
CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Thinness noted at necropsy; does not correlate with any gross finding				

ANIMAL ID: 1254	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702644

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	VENTRAL	MASS	MOTTLED
Observation Comment: 150 X 80 X 60 mm; incorporates clitoral gland, rectum and vagina			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1254	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702644

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, VENTRAL, MASS, MOTTLED]			
THYROID GLAND	C-CELL	ADENOMA	
	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA

Animal Note: Pallor confirmed at necropsy, but did not correlate with any gross findings

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1255	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD150
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702645
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS	
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE	
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	
VAGINA	ZYMBALS GLAND			
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	MAMMARY GLAND	NOSE	OVARY	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	UTERUS, CERVIX	VAGINA	
AUTOLYSIS PRECLUDES EVALUATION				
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	PANCREAS	URINARY BLADDER	
NOT PRESENT				
LYMPH NODE	LYMPH NODE, MESENTERIC			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1256	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD531
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702646
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT	
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX	
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION	
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND	
OBSERVATIONS				
LUNG	LOBE, LEFT	FOCUS	THREE, WHITE	
	RIGHT	FOCUS	CAUDAL, WHITE	
Observation Comment: up to 2 X 2 mm				
Observation Comment: lobe; 2 X 2 mm				
[FOCUS TGLS = TGL4]				
[FOCUS TGLS = TGL5]				
MAMMARY GLAND	INGUINAL	MASS	MOTTLED	
	LEFT, AXILLARY	MASS	MOTTLED	
	RIGHT, AXILLARY	MASS	MOTTLED	
Observation Comment: 100 X 70 X 65 mm; ulcerated				
Observation Comment: 60 X 45 X 30 mm; ulcerated				
Observation Comment: 80 X 60 X 35 mm; ulcerated				
[MASS TGLS = TGL1]				
[MASS TGLS = TGL3]				
[MASS TGLS = TGL2]				
NO CORRELATE		TO OBSERVATION / MASS		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1256	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD531
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702646
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PITUITARY GLAND	SALIVARY GLAND	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, TGL5-7, Gross Finding = LUNG, LOBE, LEFT, FOCUS, THREE, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL4-6, TGL5-7, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, WHITE]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 2-19, TGL 3-20				
[FIBROADENOMA TGLS = TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]				
SKIN		FIBROSARCOMA		
[FIBROSARCOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
THYROID GLAND	FOLLICULAR CELL, BILATERAL	HYPERTROPHY	MILD	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA	MULTIPLE		
	- SKIN FIBROSARCOMA			
Animal Note: Thinness noted at necropsy, but not correlated with any specific gross finding				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1257	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702647

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	RIGHT	MASS	TAN
	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: perineum; 11 X 10 X 6 mm			
Observation Comment: 65 X 60 X 24 mm; ulcerated			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 2 mm diameter			
[CYST TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1257	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702647
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
PANCREAS	PITUITARY GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
Tissue Comment: TGL 1-18, TGL 2-19				
[DILATION TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]				
OVARY	FOLLICLES	CYST		
[CYST TGLS = TGL 3-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
PARATHYROID GLAND		HYPERPLASIA	FOCAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1258	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702648

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT	FOCUS	PALE
	RIGHT	FOCUS	PALE
Observation Comment: multiple; up to 3 X 2 mm			
Observation Comment: caudal; multiple; up to 2 X 2 mm			
[FOCUS TGLS = TGL2]			
[FOCUS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 9 X 5 X 5 mm			
[ENLARGED TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1258	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD619
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702648
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	OVARY	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-7, TGL2-6, Gross Finding = LUNG, LEFT, FOCUS, PALE]				
[INFILTRATION CELLULAR TGLS = TGL3-7, TGL2-6, Gross Finding = LUNG, RIGHT, FOCUS, PALE]				
PANCREAS	ACINUS	HYPERPLASIA	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Ruffled coat and left eye discharge were confirmed at necropsy, but did not correlate with any gross findings.				

ANIMAL ID: 1259	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD280
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702649
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS	
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE	
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	
VAGINA	ZYMBALS GLAND			
OBSERVATIONS				
NO CORRELATE		TO OBSERVATION / MASS		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1259	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD280
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702649
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
KIDNEY	LIVER	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NERVE, SCIATIC	NERVE, TIBIAL	NERVE, TRIGEMINAL	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPINAL CORD, CERVICAL	
SPINAL CORD, LUMBAR	SPINAL CORD, THORACIC	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1260	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD600
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702650

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; all lung lobes affected [FOCUS TGLS = TGL2]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 68 X 52 X 26 mm [MASS TGLS = TGL1]			
MESENTERY		NODULE	MOTTLED
Observation Comment: fat; 6 X 4 X 4 mm; located in broad ligament near right ovary [NODULE TGLS = TGL6]			
NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	RIGHT	DILATION	DARK
	LEFT	MASS	TAN
		MASS	MOTTLED
Observation Comment: horn; up to 10 mm diameter; consists of blood within the uterus distal to TGL3 Observation Comment: horn; 11 X 8 X 5 mm Observation Comment: horn; 12 X 11 X 6 mm [DILATION TGLS = TGL4] [MASS TGLS = TGL5] [MASS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1260	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD600
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702650
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		NECROSIS	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]				
MESENTERY		INFLAMMATION	GRANULOMATOUS, MILD	
[INFLAMMATION TGLS = TGL 6-21, Gross Finding = MESENTERY, NODULE, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
UTERUS	ENDOMETRIUM	ADENOCARCINOMA	CYSTIC, MODERATE	
Tissue Comment: TGL 3-19, TGL 4-15, TGL 5-20				
[ADENOCARCINOMA TGLS = TGL4-15, TGL5-20, TGL3-19, Gross Finding = UTERUS, LEFT, MASS, TAN]				
[ADENOCARCINOMA TGLS = TGL4-15, TGL5-20, TGL3-19, Gross Finding = UTERUS, MASS, MOTTLED]				
[ADENOCARCINOMA TGLS = TGL4-15, TGL5-20, TGL3-19, Gross Finding = UTERUS, RIGHT, DILATION, DARK]				
CONTRIBUTORY CAUSE OF DEATH				
- UTERUS ADENOCARCINOMA				
Animal Note: Red vaginal discharge and thinness were confirmed at necropsy, but did not correlate with any specific gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1261	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD449
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702651

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	TAN
Observation Comment: multiple; 2 X 1 mm; affects all lung lobes [FOCUS TGLS = TGL4]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
	LEFT, THORACIC	MASS	TAN
Observation Comment: 85 X 80 X 35 mm Observation Comment: 120 X 105 X 85 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 2 mm diameter [CYST TGLS = TGL3]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1261	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD449
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702651
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 4-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, TAN]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
OVARY		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
PITUITARY GLAND	PARS INTERMEDIA	HYPERPLASIA	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MINIMAL	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND FIBROADENOMA MULTIPLE				
Animal Note: Thinness was confirmed at necropsy, but did not correlate with any gross finding				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1262	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702652

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm [FOCUS TGLS = TGL1]		
PITUITARY GLAND	NODULE	RED
Observation Comment: 2 X 2 X 2 mm [NODULE TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1262	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702652

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		DEGENERATION	CYSTIC, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, NODULE, RED]			
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1263	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702653

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER		DEFORMITY	MOTTLED
	RIGHT	DISCOLORATION	RED
Observation Comment: granular and spongy and all margins rounded			
Observation Comment: posterior			
[DEFORMITY TGLS = TGL3]			
[DISCOLORATION TGLS = TGL4]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 6 X 2 mm; all lung lobes affected			
[FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
Observation Comment: 130 X 93 X 74 mm			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 7 X 7 X 4 mm			
[CYST TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1263	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702653
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		FATTY CHANGE	FOCAL, MILD	
	CAPSULE	HEMORRHAGE	MILD	
		MIXED CELL FOCUS	MULTIPLE	
Tissue Comment: TGL 3-12, TGL 3-19, TGL 4-19				
[FATTY CHANGE TGLS = TGL3-12, Gross Finding = LIVER, DEFORMITY, MOTTLED]				
[HEMORRHAGE TGLS = TGL4-19, Gross Finding = LIVER, RIGHT, DISCOLORATION, RED]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 5-6, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
OVARY	FOLLICLES	CYST		
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]				
PITUITARY GLAND	PARS DISTALIS	CYST		
	PARS DISTALIS	HYPERPLASIA	MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND FIBROADENOMA				
Animal Note: Confirmed thinness at necropsy; did not correlate with any specific gross finding				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1264	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD563
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702654

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR, THREE
	RIGHT	CYST	CLEAR
Observation Comment: up to 4 X 4 X 4 mm			
Observation Comment: anterior; 3 X 3 X 3 mm			
[CYST TGLS = TGL2]			
[CYST TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 5 X 5 mm; all lung lobes affected			
[FOCUS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 9 X 8 X 5 mm			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1264	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD563
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702654
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER	BILE DUCT	CYST		
		EOSINOPHILIC FOCUS		
Tissue Comment: TGL 2-12, TGL 3-18				
[CYST TGLS = TGL3-18, TGL2-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR, THREE]				
[CYST TGLS = TGL3-18, TGL2-12, Gross Finding = LIVER, RIGHT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
STOMACH, GLANDULAR		MINERAL	MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
UTERUS		ADENOCARCINOMA		
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH				
- PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Ruffled coat was noted at necropsy, but did not correlate with any gross finding				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1265	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD624
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702655

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		NODULE	TAN
Observation Comment: 3 X 3 X 2 mm			
Observation Comment: 4 X 4 X 2 mm			
[NODULE TGLS = TGL7]			
[NODULE TGLS = TGL6]			
KIDNEY, RIGHT		CYST	CLEAR
Observation Comment: 2 X 2 X 2 mm			
[CYST TGLS = TGL5]			
LIVER	LOBE, LEFT	MASS	RED
Observation Comment: 35 X 30 X 13 mm			
Observation Comment: 20 X 15 X 3 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL3]			
LUNG	LEFT	FOCUS	WHITE
Observation Comment: multiple; up to 4 X 2 mm			
[FOCUS TGLS = TGL4]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 80 X 64 X 36 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1265	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD624
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702655
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EYE		PHTHISIS BULBI		
KIDNEY	RENAL TUBULE	CYST		
		NO CORRESPONDING LESION		
Tissue Comment: TGL 5-8, TGL 6-NCL, TGL 7-NCL				
[CYST TGLS = TGL5-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]				
[NO CORRESPONDING LESION TGLS = TGL7-NCL, Gross Finding = KIDNEY, LEFT, NODULE, TAN]				
[NO CORRESPONDING LESION TGLS = TGL6-NCL, Gross Finding = KIDNEY, LEFT, NODULE, TAN]				
LIVER		BASOPHILIC FOCUS		
	BILE DUCT	CYST		
		FATTY CHANGE	FOCAL, MINIMAL	
		HEMORRHAGE	MARKED	
Tissue Comment: TGL 2-19, TGL 3-19				
[CYST TGLS = TGL3-19, Gross Finding = LIVER, LOBE, LEFT, MASS, RED]				
[HEMORRHAGE TGLS = TGL2-19, Gross Finding = LIVER, LOBE, LEFT, MASS, RED]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
[INFILTRATION CELLULAR TGLS = TGL 4-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
UTERUS		STROMAL POLYP		
CONTRIBUTORY CAUSE OF DEATH				
- LIVER HEMORRHAGE				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1266	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702656

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	TAN
Observation Comment: multiple; 2 X 2 mm; affects all lung lobes			
[FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
	RIGHT, AXILLARY	MASS	MOTTLED
Observation Comment: 65 X 42 X 25 mm			
Observation Comment: 125 X 85 X 38 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1266	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702656

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	THYMUS	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		ANGIECTASIS	MINIMAL
		BASOPHILIC FOCUS	
		CLEAR CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, TAN]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	

Animal Note: Thinness and right eye (red) discharge confirmed at necropsy, but do not correlate with any specific gross findings

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1267	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD554
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702657

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
UTERUS	ZYMBALS GLAND		

OBSERVATIONS

LYMPH NODE	LUMBAR, BILATERAL	ENLARGED	TAN
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL4]			
MAMMARY GLAND	THORACIC	MASS	TAN
Observation Comment: 45 X 44 X 20 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	DARK
Observation Comment: 66 X 15 X 10 mm [ENLARGED TGLS = TGL5]			
URINARY BLADDER		MASS	TAN
Observation Comment: wall; 45 X 35 X 20 mm [MASS TGLS = TGL3]			
VAGINA		MASS	TAN
Observation Comment: wall; 45 X 40 X 25 mm [MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1267	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD554
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702657

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	VAGINA		

OBSERVATIONS

LIVER		NECROSIS	MINIMAL
LYMPH NODE	LUMBAR, SINUS	ECTASIA	LYMPHATIC, MILD
[ECTASIA TGLS = TGL 4-21, Gross Finding = LYMPH NODE, LUMBAR, BILATERAL, ENLARGED, TAN]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, THORACIC, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 5-8, Gross Finding = SPLEEN, ENLARGED, DARK]			
UTERUS, CERVIX		SCHWANNOMA	MALIGNANT
Tissue Comment: TGL 2-19, TGL 3-20			
[SCHWANNOMA TGLS = TGL3-20, TGL2-19, Gross Finding = URINARY BLADDER, MASS, TAN]			
[SCHWANNOMA TGLS = TGL3-20, TGL2-19, Gross Finding = VAGINA, MASS, TAN]			

CONTRIBUTORY CAUSE OF DEATH	- UTERUS, CERVIX SCHWANNOMA	MALIGNANT

Animal Note: Thinness confirmed at necropsy, but not correlated with any gross finding

ANIMAL ID: 1268	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702658

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 7 X 2 mm; all lobes affected			
[FOCUS TGLS = TGL3]			
MAMMARY GLAND	THORACIC	MASS	TAN
Observation Comment: 65 X 45 X 25 mm; ulcerated			
Observation Comment: 55 X 40 X 15 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 8 X 5 X 5 mm			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1268	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702658
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		BASOPHILIC FOCUS		
		EOSINOPHILIC FOCUS		
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND		ADENOMA		
	DUCT	DILATION	MILD	
		FIBROADENOMA		
Tissue Comment: TGL 1-18, TGL 2-19				
[ADENOMA TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, THORACIC, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, Gross Finding = MAMMARY GLAND, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	ATYPICAL, MILD	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
UTERUS, CERVIX		GRANULAR CELL TUMOR	BENIGN	
CONTRIBUTORY CAUSE OF DEATH				
- PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Nasal and ocular discharges noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1269	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD483
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702659

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	FOCUS	RED
Observation Comment: up to 2 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL3]		
MAMMARY GLAND	MASS	TAN
Observation Comment: perineal; 125 X 100 X 40 mm; ulcerated; obscures the external genitalia [MASS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
SPLEEN	ENLARGED	RED
Observation Comment: 54 X 15 X 6 mm [ENLARGED TGLS = TGL2]		

ANIMAL ID: 1269	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD483
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702659

HISTOPATH TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LYMPH NODE, MANDIBULAR	NOSE	OVARY
PANCREAS	PITUITARY GLAND	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT	
LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS			
CLITORAL GLAND			
Tissue Comment: Only one clitoral gland with slide set			
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
	BILE DUCT	HYPERPLASIA	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, RED]			
LYMPH NODE, MESENTERIC	PARACORTEX, LYMPHOCYTE	HYPERPLASIA	MODERATE
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, MASS, TAN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 2-8, Gross Finding = SPLEEN, ENLARGED, RED]			

CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA

Animal Note: Hindlimb swelling, pallor, and red discharge from nose noted at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1270	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702660

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, RIGHT	LARYNX	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		NODULE	WHITE
Observation Comment: 7 X 4 X 1 mm [NODULE TGLS = TGL5]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 1 mm diameter [CYST TGLS = TGL4]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 1 x 1 mm; affects all lung lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 41 X 38 X 15 mm Observation Comment: 68 X 50 X 12 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
PITUITARY GLAND		NODULE	RED
Observation Comment: 2 X 2 X 1 mm [NODULE TGLS = TGL7]			
UTERUS	LEFT	DILATION	
Observation Comment: horn; up to 10 mm diameter			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1270	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702660

[DILATION TGLS = TGL6]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1270	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702660
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN	MENINGES	INFLAMMATION	CHRONIC, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
		INFLAMMATION	SUPPURATIVE, MILD	
[INFLAMMATION TGLS = TGL 5-8, Gross Finding = KIDNEY, LEFT, NODULE, WHITE]				
LIVER		BASOPHILIC FOCUS		
		CLEAR CELL FOCUS	MULTIPLE	
		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ANGIECTASIS	MILD	
	PARS DISTALIS	HYPERPLASIA	MINIMAL	
[ANGIECTASIS TGLS = TGL 7-11, Gross Finding = PITUITARY GLAND, NODULE, RED]				
UTERUS		DILATION	MILD	
[DILATION TGLS = TGL 6-16, Gross Finding = UTERUS, LEFT, DILATION,]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1271	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702661

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 3 mm; affects left and right caudal lung lobes [FOCUS TGLS = TGL2]			
LYMPH NODE, MESENTERIC		ENLARGED	TAN
Observation Comment: 25 X 25 X 10 mm [ENLARGED TGLS = TGL3]			
MESENTERY		NODULE	MOTTLED
Observation Comment: fat; multiple; 10 X 10 X 3 mm; consists of numerous fluid filled or solid nodules extending from the mesentery [NODULE TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		FOCUS	RED
Observation Comment: 2 X 2 mm [FOCUS TGLS = TGL5]			
UTERUS	RIGHT	MASS	MOTTLED
Observation Comment: horn; 30 X 15 X 9 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1271	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702661

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	NOSE
OVARY	PARATHYROID GLAND	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

INTESTINE, LARGE, COLON	LYMPH NODE

OBSERVATIONS

AORTA		MINERAL	MILD
CLITORAL GLAND			
Tissue Comment: Only one clitoral gland in slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
		MINERAL	MINIMAL
LIVER		NECROSIS	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
		SCHWANNOMA	METASTATIC
Tissue Comment: TGL 2-6, TGL 2-7			
Observation Comment: primary schwannoma is in uterus			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
LYMPH NODE, MESENTERIC		SCHWANNOMA	METASTATIC
Observation Comment: primary schwannoma is in uterus			
[SCHWANNOMA TGLS = TGL 3-19, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, TAN]			
MAMMARY GLAND	DUCT	DILATION	MINIMAL
MESENTERY		SCHWANNOMA	METASTATIC
[SCHWANNOMA TGLS = TGL 4-18, Gross Finding = MESENTERY, NODULE, MOTTLED]			
PANCREAS		SCHWANNOMA	METASTATIC
Observation Comment: primary schwannoma is in uterus			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
[HYPERPLASIA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, FOCUS, RED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1271	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702661
THYROID GLAND	C-CELL		HYPERPLASIA	MODERATE
UTERUS			SCHWANNOMA	MALIGNANT
[SCHWANNOMA TGLS = TGL 1-20, Gross Finding = UTERUS, RIGHT, MASS, MOTTLED]				
CONTRIBUTORY CAUSE OF DEATH - UTERUS SCHWANNOMA MALIGNANT				
Animal Note: Vaginal red discharge found at necropsy, but not correlated with any specific necropsy finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1272	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD603
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702662

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

ABDOMEN		ACCUMULUATION	CLEAR
Observation Comment: approximately 13 ml [ACCUMULUATION TGLS = TGL7]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 6 X 2 mm; affects left lobe and right caudal lobe [FOCUS TGLS = TGL5]			
LYMPH NODE	BILATERAL, RENAL ILLIAC	ENLARGED ENLARGED	TAN TAN
Observation Comment: 8 X expected size Observation Comment: 5 X expected size [ENLARGED TGLS = TGL10] [ENLARGED TGLS = TGL11]			
LYMPH NODE, AXILLARY	BILATERAL	ENLARGED	TAN
Observation Comment: 10 X expected size [ENLARGED TGLS = TGL9]			
LYMPH NODE, MANDIBULAR		ENLARGED	TAN
Observation Comment: 5 X expected size [ENLARGED TGLS = TGL4]			
LYMPH NODE, MESENTERIC		ENLARGED	TAN
Observation Comment: 10 X expected size			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1272	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD603
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702662
[ENLARGED TGLS = TGL6]				
MAMMARY GLAND	RIGHT, THORACIC	MASS		TAN
Observation Comment: 40 X 35 X 18 mm				
[MASS TGLS = TGL1]				
NO CORRELATE		TO OBSERVATION / MASS		
SPLEEN		ENLARGED		TAN
Observation Comment: 63 X 20 X 12 mm				
[ENLARGED TGLS = TGL2]				
THORAX		ACCUMULUATION		CLEAR
Observation Comment: approximately 6 ml				
[ACCUMULUATION TGLS = TGL8]				
THYMUS		ENLARGED		TAN
Observation Comment: 5 X expected size				
[ENLARGED TGLS = TGL3]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1272	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD603
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702662

HISTOPATH TISSUE STATUS**Within Normal Limits**

BONE MARROW	BONE, FEMUR	BRAIN	CLITORAL GLAND
ESOPHAGUS	EYE	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
NOSE	SKIN	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

PARATHYROID GLAND

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
AORTA		LYMPHOMA	MALIGNANT
HARDERIAN GLAND		LYMPHOMA	MALIGNANT
HEART		LYMPHOMA	MALIGNANT
INTESTINE, LARGE, CECUM		LYMPHOMA	MALIGNANT
INTESTINE, LARGE, COLON		LYMPHOMA	MALIGNANT
INTESTINE, SMALL, ILEUM		LYMPHOMA	MALIGNANT
INTESTINE, SMALL, JEJUNUM		LYMPHOMA	MALIGNANT
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
		LYMPHOMA	MALIGNANT
LIVER		LYMPHOMA	MALIGNANT
LUNG		LYMPHOMA	MALIGNANT
Tissue Comment: TGL 5-6, TGL 5-7			
[LYMPHOMA TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]			
LYMPH NODE	ILLIAC	LYMPHOMA	MALIGNANT
	RENAL	LYMPHOMA	MALIGNANT
Tissue Comment: TGL 10-21, TGL 11-22			
[LYMPHOMA TGLS = TGL11-22, Gross Finding = LYMPH NODE, ILLIAC, ENLARGED, TAN]			
[LYMPHOMA TGLS = TGL10-21, Gross Finding = LYMPH NODE, BILATERAL, RENAL, ENLARGED, TAN]			
LYMPH NODE, AXILLARY		LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 9-20, Gross Finding = LYMPH NODE, AXILLARY, BILATERAL, ENLARGED, TAN]			
LYMPH NODE, MANDIBULAR		LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 4-12, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, TAN]			
LYMPH NODE, MESENTERIC		LYMPHOMA	MALIGNANT

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1272	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD603
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702662
[LYMPHOMA TGLS = TGL 6-19, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, TAN]				
MAMMARY GLAND	DUCT	DILATION		MILD
		FIBROADENOMA		
		LYMPHOMA		MALIGNANT
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
OVARY		LYMPHOMA		MALIGNANT
PANCREAS		LYMPHOMA		MALIGNANT
PITUITARY GLAND		LYMPHOMA		MALIGNANT
SALIVARY GLAND		ATROPHY		MARKED
SPLEEN		LYMPHOMA		MALIGNANT
[LYMPHOMA TGLS = TGL 2-8, Gross Finding = SPLEEN, ENLARGED, TAN]				
STOMACH, FORESTOMACH		LYMPHOMA		MALIGNANT
STOMACH, GLANDULAR		LYMPHOMA		MALIGNANT
THYMUS		LYMPHOMA		MALIGNANT
[LYMPHOMA TGLS = TGL 3-6, Gross Finding = THYMUS, ENLARGED, TAN]				
UTERUS		LYMPHOMA		MALIGNANT
	ENDOMETRIUM	METAPLASIA		SQUAMOUS, MINIMAL
CONTRIBUTORY CAUSE OF DEATH - LUNG LYMPHOMA MALIGNANT				
Animal Note: Thinness and pallor noted at necropsy, but did not correlate with any specific necropsy findings				

ANIMAL ID: 1273	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702663

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 6 X 4 mm; affects all lung lobes [FOCUS TGLS = TGL2]		
OVARY, LEFT	CYST	CLEAR
Observation Comment: 9 X 9 X 8 mm [CYST TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1273	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702663
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
PANCREAS	PITUITARY GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
OVARY	FOLLICLES	CYST		
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
UTERUS	ENDOMETRIUM	ADENOCARCINOMA		
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE	
		METAPLASIA	SQUAMOUS, MILD	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1274	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702664

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA	ZYMBALS GLAND

OBSERVATIONS

EYE	LEFT	DISCOLORATION	OPAQUE
Observation Comment: accounts for eye abnormality and opaque [DISCOLORATION TGLS = TGL3]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 12 X 7 X 5 mm [CYST TGLS = TGL7]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects left and right caudal lung lobes [FOCUS TGLS = TGL6]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	LEFT, THORACIC	MASS	TAN
Observation Comment: 40 X 25 X 15 mm Observation Comment: 20 X 10 X 10 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 5 mm diameter [CYST TGLS = TGL5]			
UTERUS	RIGHT	MASS	MOTTLED

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1274

TRT#: F1-1

DOSE: 0 mg/L

SEX: Female

REMOVAL DAY: SD639

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Scheduled Removal (Terminal)

HISTO: 1702664

Observation Comment: horn; 35 X 15 X 10 mm; this mass enlarges uterine horn; uterine horn is dilated distal to mass and contains green material

[MASS TGLS = TGL4]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1274	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702664
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	URINARY BLADDER	VAGINA	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
EYE		PHTHISIS BULBI		
[PHTHISIS BULBI TGLS = TGL 3-13, Gross Finding = EYE, LEFT, DISCOLORATION, OPAQUE]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		BASOPHILIC FOCUS	MULTIPLE	
		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	CYST		
[CYST TGLS = TGL 7-21, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 6-6, TGL 6-7				
[INFILTRATION CELLULAR TGLS = TGL6-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
OVARY	FOLLICLES	CYST		
[CYST TGLS = TGL 5-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
	PARS DISTALIS	HYPERPLASIA	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
UTERUS		SQUAMOUS CELL CARCINOMA		
[SQUAMOUS CELL CARCINOMA TGLS = TGL 4-20, Gross Finding = UTERUS, RIGHT, MASS, MOTTLED]				
UTERUS, CERVIX		SQUAMOUS CELL CARCINOMA		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1274

TRT#: F1-1

DOSE: 0 mg/L

SEX: Female

REMOVAL DAY: SD639

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Scheduled Removal (Terminal)

HISTO: 1702664

Animal Note: Eye abnormality (left) red vaginal discharge, and pallor confirmed at necropsy, but not correlated with any specific necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1275	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702665

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 8 X 4 mm; all lung lobes affected [FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT	MASS	TAN
	LEFT, THORACIC	MASS	TAN
	RIGHT, THORACIC	MASS	TAN
Observation Comment: perineum; 20 X 16 X 5 mm Observation Comment: 20 X 20 X 11 mm Observation Comment: 40 X 40 X 11 mm [MASS TGLS = TGL6] [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	LEFT	MASS	RED
Observation Comment: horn; 8 X 6 X 4 mm [MASS TGLS = TGL4]			
VAGINA		MASS	TAN
Observation Comment: 8 X 7 X 3 mm [MASS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1275	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702665
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 5-6, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MODERATE	
		FIBROADENOMA	MULTIPLE	
		INFLAMMATION	GRANULOMATOUS, MODERATE	
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-16, TGL 6-20				
[FIBROADENOMA TGLS = TGL6-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, MASS, TAN]				
[FIBROADENOMA TGLS = TGL6-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
[FIBROADENOMA TGLS = TGL6-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
[INFLAMMATION TGLS = TGL3-16, Gross Finding = VAGINA, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
THYROID GLAND	C-CELL	ADENOMA		
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE	
		THROMBUS		
Tissue Comment: TGL 4-16, TGL 4-17				
[THROMBUS TGLS = TGL4-16, Gross Finding = UTERUS, LEFT, MASS, RED]				
Animal Note: Red vaginal discharge and pallor noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1276	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702666

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 2 mm diameter [CYST TGLS = TGL2]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 110 X 70 X 53 mm; ulcerated [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1276	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702666
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
LIVER	BILE DUCT	CYST		
		NECROSIS	MINIMAL	
[CYST TGLS = TGL 2-16, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA				
Animal Note: Pallor and ruffled coat noted at necropsy, but did not correlate with any gross findings.				

ANIMAL ID: 1277	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702667

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	RIGHT	MASS	TAN
Observation Comment: perineum; 12 X 10 X 9 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1277	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702667

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN
CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS		ADENOCARCINOMA	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD

ANIMAL ID: 1278	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD625
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702668

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	INGUINAL	MASS	MOTTLED
Observation Comment: 120 X 120 X 40 mm; partially filled with blood			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1278	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD625
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702668
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PITUITARY GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND	THYMUS		
OBSERVATIONS				
ADRENAL CORTEX		DEGENERATION HYPERTROPHY	CYSTIC, MINIMAL FOCAL, MILD	
CLITORAL GLAND				
Tissue Comment: Only one clitoral gland in slide set				
LIVER		NECROSIS	MINIMAL	
MAMMARY GLAND	DUCT	DILATION FIBROMA	MILD	
[FIBROMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]				
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
UTERUS		ADENOCARCINOMA		
	ENDOMETRIUM	HYPERPLASIA	ATYPICAL, MARKED	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROMA			
Animal Note: Ruffled coat, pallor and thinness noted at necropsy, but did not correlate with any specific gross lesions.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1279	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702669

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	MOTTLED
Observation Comment: 20 X 10 X 8 mm [ENLARGED TGLS = TGL4]			
KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LYMPH NODE, MESENTERIC		DISCOLORATION	DARK
Observation Comment: found at trim [DISCOLORATION TGLS = TGL5]			
MAMMARY GLAND	RIGHT	MASS	TAN
Observation Comment: perineum; 15 X 12 X 4 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1279	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702669
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA	PHEOCHROMOCYTOMA		MALIGNANT	
[PHEOCHROMOCYTOMA TGLS = TGL 4-20, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, MOTTLED]				
HEART	CARDIOMYOPATHY		MINIMAL	
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY		MODERATE	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LIVER	INFLAMMATION		CHRONIC, FOCAL, MINIMAL	
	MIXED CELL FOCUS		MULTIPLE	
MAMMARY GLAND	FIBROADENOMA			
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, MASS, TAN]				
MESENTERY	ARTERIOLE	INFLAMMATION	CHRONIC, MODERATE	
[INFLAMMATION TGLS = TGL 5-19, Gross Finding = LYMPH NODE, MESENTERIC, DISCOLORATION, DARK]				
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS		INCREASED, MINIMAL	
UTERUS	STROMAL POLYP			
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1280	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702670

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY	
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL2]		
KIDNEY, RIGHT	DEFORMITY	
Observation Comment: granular; found at trim [DEFORMITY TGLS = TGL3]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 5 X 5 mm; affects left and right caudal lung lobes [FOCUS TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1280	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702670
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
THYROID GLAND	C-CELL	ADENOMA		
	C-CELL	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1281	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702671

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; largest 3 X 2 mm; all lobes affected; found at trim [FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	TAN
Observation Comment: 80 X 60 X 24 mm			
Observation Comment: 20 X 20 X 14 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1281	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702671
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1282	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702672

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	MOTTLED
	RIGHT, INGUINAL	MASS	MOTTLED
Observation Comment: 45 X 35 X 25 mm			
Observation Comment: 40 X 38 X 20 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1282	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702672

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA		

NOT PRESENT

LYMPH NODE	OVARY	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

OBSERVATIONS

ADRENAL CORTEX	DEGENERATION	CYSTIC, MODERATE
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	CLEAR CELL FOCUS	MULTIPLE
MAMMARY GLAND	FIBROADENOMA	MULTIPLE

Tissue Comment: TGL 1-18, TGL 2-19

[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]

[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1283	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD542
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702673

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	UTERUS
VAGINA	ZYMBALS GLAND		

MISSING

ADRENAL GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, SMALL, ILEUM
KIDNEY, LEFT	KIDNEY, RIGHT	LIVER	LUNG
LYMPH NODE, MESENTERIC	OVARY, LEFT	OVARY, RIGHT	PANCREAS
SPLEEN	THYMUS	URINARY BLADDER	

OBSERVATIONS

ESOPHAGUS			
Tissue Comment: Partially cannibalized			
INTESTINE, SMALL, JEJUNUM			
Tissue Comment: Partially cannibalized			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	RED
Observation Comment: 25 X 16 X 9 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT			
Tissue Comment: oviduct also missing			
OVARY, RIGHT			
Tissue Comment: oviduct also missing			
TRACHEA			
Tissue Comment: Partially cannibalized			
UTERUS			
Tissue Comment: Partially cannibalized			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1283	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD542
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702673

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, SMALL, ILEUM	LYMPH NODE, MANDIBULAR	NOSE	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	THYROID GLAND
TRACHEA	UTERUS	UTERUS, CERVIX	

NOT PRESENT

ADRENAL GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, JEJUNUM	KIDNEY
LIVER	LUNG	LYMPH NODE	LYMPH NODE, MESENTERIC
OVARY	PANCREAS	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	URINARY BLADDER	VAGINA

OBSERVATIONS

MAMMARY GLAND	DUCT	DILATION FIBROADENOMA	MILD

[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, RED]

PRIMARY CAUSE OF DEATH	- UNDETERMINED
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA

Animal Note: Partial cannibalization was noted in several tissues as indicated by tissue comments in necropsy record, but did not correspond with any gross lesions.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1284	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702674

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	RIGHT, AXILLARY	MASS	MOTTLED
Observation Comment: 40 X 29 X 20 mm			
Observation Comment: 50 X 35 X 27 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1284	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702674

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	PAPILLA	THROMBUS	
LIVER		CLEAR CELL FOCUS	MULTIPLE
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1285	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD553
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702675

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; all lobes involved [FOCUS TGLS = TGL2]			
MAMMARY GLAND	INGUINAL	MASS	MOTTLED
Observation Comment: 110 X 85 X 65 mm; partly cannabilized [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1285	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD553
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702675

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

CLITORAL GLAND	LYMPH NODE

OBSERVATIONS

HEART	ATRIUM	THROMBUS	
	VENTRICLE	THROMBUS	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		BASOPHILIC FOCUS	
		FATTY CHANGE	FOCAL, MINIMAL
		NECROSIS	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL

Tissue Comment: TGL 2-6, TGL 2-7

[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]

MAMMARY GLAND	FIBROADENOMA

[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]

CONTRIBUTORY CAUSE OF DEATH	- HEART THROMBUS ATRIUM

Animal Note: Partial cannabilization noted at necropsy, but is not correlated with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1286	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702676

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 2 X 1 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	MOTTLED
Observation Comment: 75 X 60 X 32 mm [MASS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 15 X 15 X 10 mm [CYST TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1286	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702676

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		BASOPHILIC FOCUS	MULTIPLE
		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, MOTTLED]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 3-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1287	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702677

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL6]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
	LEFT, THORACIC	MASS	TAN
	RIGHT, ABDOMINAL	MASS	TAN
	RIGHT, INGUINAL	MASS	TAN
	RIGHT, THORACIC	MASS	TAN
Observation Comment: 55 X 50 X 30 mm			
Observation Comment: 35 X 25 X 20 mm			
Observation Comment: 20 X 20 X 10 mm			
Observation Comment: 40 X 35 X 25 mm			
Observation Comment: 45 X 40 X 20 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL4]			
[MASS TGLS = TGL5]			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1287	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702677
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		BASOPHILIC FOCUS	MULTIPLE	
		CLEAR CELL FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 6-6, TGL 6-7				
[INFILTRATION CELLULAR TGLS = TGL6-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20, TGL 4-21, TGL 5-22				
[FIBROADENOMA TGLS = TGL5-22, TGL3-20, TGL2-19, TGL4-21, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL5-22, TGL3-20, TGL2-19, TGL4-21, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
[FIBROADENOMA TGLS = TGL5-22, TGL3-20, TGL2-19, TGL4-21, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL5-22, TGL3-20, TGL2-19, TGL4-21, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL5-22, TGL3-20, TGL2-19, TGL4-21, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	ATYPICAL, MARKED	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1288	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702678

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

INTESTINE, LARGE, CECUM		MASS	TAN
Observation Comment: 10 X 10 X 5 mm [MASS TGLS = TGL2]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	MOTTLED
Observation Comment: 125 X 90 X 40 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1288	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702678
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
INTESTINE, LARGE, CECUM		LEIOMYOSARCOMA		
[LEIOMYOSARCOMA TGLS = TGL 2-19, Gross Finding = INTESTINE, LARGE, CECUM, MASS, TAN]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- INTESTINE, LARGE, CECUM LEIOMYOSARCOMA				
Animal Note: Pallor and thinness were noted at necropsy, but did not correlate with any specific gross findings.				

ANIMAL ID: 1289	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702679

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1289	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702679

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE	THYMUS

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	
	BILE DUCT	HYPERPLASIA	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MINIMAL
PARATHYROID GLAND		ADENOMA	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1290	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702680

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	
Observation Comment: 5 X expected size [ENLARGED TGLS = TGL3]			
LIVER	CAUDATE LOBE	CYST	CLEAR
Observation Comment: 14 X 10 X 10 mm [CYST TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 10 X 6 X 5 mm [ENLARGED TGLS = TGL2]			
UTERUS	RIGHT	MASS	TAN
Observation Comment: horn; 11 X 5 X 5 mm [MASS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1290	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702680

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		CYST	
[CYST TGLS = TGL 3-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED,]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	CYST	
	BILE DUCT	HYPERPLASIA	MINIMAL
[CYST TGLS = TGL 1-18, Gross Finding = LIVER, CAUDATE LOBE, CYST, CLEAR]			
MAMMARY GLAND	DUCT	DILATION	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE
		STROMAL POLYP	
[STROMAL POLYP TGLS = TGL 4-17, Gross Finding = UTERUS, RIGHT, MASS, TAN]			

Animal Note: Ruffled coat and scab of left hindlimb confirmed at necropsy, but do not correlate with any gross findings.

ANIMAL ID: 1291	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD458
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702681

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; largest 2 X 2 mm; affects all lobes; found at trim		
[FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1291	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD458
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702681
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NERVE, SCIATIC	
NERVE, TIBIAL	NERVE, TRIGEMINAL	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPINAL CORD, CERVICAL	SPINAL CORD, LUMBAR	SPINAL CORD, THORACIC	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		FATTY CHANGE	FOCAL, MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1292	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD451
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702682

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	LEFT	FOCUS	FIVE, WHITE
	RIGHT	FOCUS	TWO, WHITE
Observation Comment: up to 3 X 1 mm			
Observation Comment: caudal; up to 3 X 1 mm			
[FOCUS TGLS = TGL3]			
[FOCUS TGLS = TGL4]			
MAMMARY GLAND	LEFT, THORACIC	MASS	MOTTLED
Observation Comment: 115 x 80 X 55 mm			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
THYMUS		SMALL	
Observation Comment: 0.25 X expected size			
[SMALL TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1292	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD451
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702682
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		BASOPHILIC FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 4-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, TGL4-7, Gross Finding = LUNG, LEFT, FOCUS, FIVE, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL3-6, TGL4-7, Gross Finding = LUNG, RIGHT, FOCUS, TWO, WHITE]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, MOTTLED]				
NO CORRELATE		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL2, Gross Finding = THYMUS, SMALL,]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
THYMUS				
Tissue Comment: TGL 2-NCL, gross lesion could not be correlated as tissue was missing in slide set				
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA				
Animal Note: Thinness and pallor noted at necropsy, but did not correlate with any specific gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1293	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702683

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular			
[DEFORMITY TGLS = TGL4]			
LIVER	LOBE, LEFT	CYST	CLEAR, FOUR
	LOBE, MEDIAN	CYST	CLEAR, TWO
Observation Comment: up to 3 X 2 X 1 mm			
Observation Comment: up to 2 X 1 mm			
[CYST TGLS = TGL9]			
[CYST TGLS = TGL10]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3x2mm; affects all lung lobes			
[FOCUS TGLS = TGL7]			
MAMMARY GLAND	RIGHT, INGUINAL	MASS	TAN
	RIGHT, THORACIC	MASS	MOTTLED
		MASS	TAN
Observation Comment: 22 X 20 X 8 mm			
Observation Comment: 52 X 48 X 17 mm			

ANIMAL ID: 1293	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702683
Observation Comment: perineum; 8 X 6 X 6 mm				
[MASS TGLS = TGL2]				
[MASS TGLS = TGL1]				
[MASS TGLS = TGL8]				
NO CORRELATE			TO OBSERVATION / MASS	
OVARY, RIGHT			CYST	CLEAR
			MASS	TAN
Observation Comment: 8 X 5 X 4 mm				
Observation Comment: 8 X 6 X 6 mm				
[CYST TGLS = TGL3]				
[MASS TGLS = TGL6]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1293	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702683

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HARDERIAN GLAND		INFLAMMATION	CHRONIC, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 4-8, TGL 5-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER	BILE DUCT	CYST	
	BILE DUCT	HYPERPLASIA	MILD
Tissue Comment: TGL 9-12, TGL 10-12			
[CYST TGLS = TGL10-12, TGL9-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR, FOUR]			
[CYST TGLS = TGL10-12, TGL9-12, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR, TWO]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 7-6, TGL 7-7			
[INFILTRATION CELLULAR TGLS = TGL7-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
		INFLAMMATION	CHRONIC, MODERATE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 8-20			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]			
[INFLAMMATION TGLS = TGL8-20, Gross Finding = MAMMARY GLAND, MASS, TAN]			

ANIMAL ID: 1293	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702683
OVARY	FOLLICLES	CYST		CHRONIC, MODERATE
		INFLAMMATION		
Tissue Comment: TGL 3-14, TGL 6-14				
[CYST TGLS = TGL3-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]				
[INFLAMMATION TGLS = TGL6-14, Gross Finding = OVARY, RIGHT, MASS, TAN]				
UTERUS	ENDOMETRIUM	HYPERPLASIA		CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA		SQUAMOUS, MILD
Animal Note: A kinked tail was noted, but did not correlate with any specific necropsy finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1294	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702684

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LIVER	LOBE, MEDIAN	CYST	CLEAR
Observation Comment: 2 X 2 X 1 mm [CYST TGLS = TGL4]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 1 mm; left and right caudal lung lobes affected [FOCUS TGLS = TGL5]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 44 X 44 X 14 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1294	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702684

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER		CLEAR CELL FOCUS	MULTIPLE
NO CORRESPONDING LESION			
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 5-6, TGL 5-7			
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
THYROID GLAND	C-CELL	ADENOMA	

Animal Note: Kinked tail noted at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1295	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702685

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 3 mm; affects all lung lobes			
[FOCUS TGLS = TGL3]			
MAMMARY GLAND	ABDOMINAL	MASS	MOTTLED
Observation Comment: 90 X 75 X 30 mm			
Observation Comment: 65 X 50 X 30 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1295	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702685

HISTOPATH TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT
LYMPH NODE

OBSERVATIONS			
ADRENAL GLAND			
Tissue Comment: Only one adrenal medulla with slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		BASOPHILIC FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MINIMAL
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, MOTTLED]			
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Kinked tail noted at necropsy, but not correlated with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1296	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702686

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 1 X 1 X 1 mm [CYST TGLS = TGL3]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 55 X 45 X 18 mm Observation Comment: 25 X 21 X 17 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 11 X 5 X 3 mm [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1296	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702686

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYROID GLAND	TRACHEA	UTERUS	VAGINA

NOT PRESENT

LYMPH NODE	THYMUS	URINARY BLADDER

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
UTERUS, CERVIX		SQUAMOUS CELL CARCINOMA	

CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Ruffled coat, red discharge, snout, and kinked tail confirmed at necropsy, but did not correlate with any specific necropsy findings.

ANIMAL ID: 1297	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702687

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

OVARY, LEFT	CYST	CLEAR
Observation Comment: 4 X 4 X 4 mm; found at trim		
[CYST TGLS = TGL1]		

ANIMAL ID: 1297	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702687

HISTOPATH TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1298	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD562
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702688

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND	LEFT	CYST	CLEAR
Observation Comment: 8 mm diameter [CYST TGLS = TGL6]			
LUNG	LOBE, LEFT	FOCUS	FIVE, WHITE
	RIGHT	FOCUS	FOUR, WHITE
	RIGHT	FOCUS	WHITE
	RIGHT, CRANIAL	FOCUS	WHITE
Observation Comment: up to 3 X 1 mm Observation Comment: caudal lobe; up to 2 X 1 mm Observation Comment: middle lobe; 1 X 1 mm Observation Comment: lobe; 2 X 2 mm [FOCUS TGLS = TGL2] [FOCUS TGLS = TGL5] [FOCUS TGLS = TGL4] [FOCUS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
UTERUS		DILATION	DARK
Observation Comment: body; red; 30 X 25 X 13 mm [DILATION TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1298	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD562
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702688
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		CYST		
Tissue Comment: TGL 6-11; Only one adrenal medulla in slide set				
[CYST TGLS = TGL6-11, Gross Finding = ADRENAL GLAND, LEFT, CYST, CLEAR]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		NECROSIS	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 3-7, TGL 4-7, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL3-7, TGL2-6, TGL4-7, Gross Finding = LUNG, LOBE, LEFT, FOCUS, FIVE, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL3-7, TGL2-6, TGL4-7, Gross Finding = LUNG, RIGHT, CRANIAL, FOCUS, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL3-7, TGL2-6, TGL4-7, Gross Finding = LUNG, RIGHT, FOCUS, FOUR, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL3-7, TGL2-6, TGL4-7, Gross Finding = LUNG, RIGHT, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, GLANDULAR		MINERAL	MILD	
UTERUS		STROMAL POLYP		
Tissue Comment: TGL 1-16, TGL 1-17, TGL 1-18				
[STROMAL POLYP TGLS = TGL1-16, Gross Finding = UTERUS, DILATION, DARK]				
CONTRIBUTORY CAUSE OF DEATH				
- UTERUS STROMAL POLYP				
Animal Note: Red vaginal discharge confirmed at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1299	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD575
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702689

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; all lung lobes affected [FOCUS TGLS = TGL3]			
MAMMARY GLAND	ABDOMINAL	MASS	TAN
	RIGHT, AXILLARY	MASS	RED
Observation Comment: 26 X 16 X 5 mm Observation Comment: 36 X 33 X 11 mm; ulcerated [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1299	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD575
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702689

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOCARCINOMA	
		FIBROADENOMA	
Tissue Comment: TGL 1-18, TGL 2-19			
[ADENOCARCINOMA TGLS = TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, RED]			
[FIBROADENOMA TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, TAN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND ADENOCARCINOMA
	- MAMMARY GLAND FIBROADENOMA

Animal Note: Pallor noted at necropsy, but not correlated with any specific necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1300	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702690

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 7 X 6 X 2 mm [ENLARGED TGLS = TGL2]			
THYROID GLAND	LEFT	ENLARGED	PALE
Observation Comment: 2 X expected size; found at trim [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1300	TRT#: F1-1	DOSE: 0 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702690
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
OVARY	PANCREAS	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LUNG		CARCINOMA	METASTATIC	
	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Observation Comment: primary carcinoma is in thyroid, c-cells				
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
	PARS DISTALIS	HYPERPLASIA	MODERATE	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
THYROID GLAND	C-CELL	CARCINOMA	MALIGNANT	
[CARCINOMA TGLS = TGL 3-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED, PALE]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	

ANIMAL ID: 1301	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702761
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE	
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN	
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA	
ZYMBALS GLAND				
OBSERVATIONS				
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN	
	RIGHT, ABDOMINAL	MASS	MOTTLED	
Observation Comment: 10 X 10 X 9 mm				
Observation Comment: 20 X 10 X 10 mm				
Observation Comment: 90 X 60 X 60 mm				
[MASS TGLS = TGL3]				
[MASS TGLS = TGL2]				
[MASS TGLS = TGL1]				
NO CORRELATE		TO OBSERVATION / MASS		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1301	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD588
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702761
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HARDERIAN GLAND		INFLAMMATION	CHRONIC, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND		ADENOMA		
	DUCT	DILATION	MODERATE	
		FIBROADENOMA		
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20				
[ADENOMA TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
[DILATION TGLS = TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND ADENOMA				
- MAMMARY GLAND FIBROADENOMA				

Animal Note: Malocclusion and broken teeth confirmed at necropsy, but did not correlate with any spaeific gross findings.

ANIMAL ID: 1302	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702762

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
Observation Comment: 35 X 30 X 15 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1302	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702762
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS		
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1303	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD384
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702763

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		DISCOLORATION	MOTTLED
Observation Comment: affects all lung lobes [DISCOLORATION TGLS = TGL3]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 100 X 90 X 50 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	RED
Observation Comment: 65 X 17 X 10 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1303	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD384
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702763
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
BRAIN		HEMORRHAGE	MODERATE	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
		NECROSIS	MINIMAL	
LUNG		HEMORRHAGE	MILD	
Tissue Comment: TGL 3-6, TGL 3-7				
[HEMORRHAGE TGLS = TGL3-6, Gross Finding = LUNG, DISCOLORATION, MOTTLED]				
LYMPH NODE, MANDIBULAR		LYMPHOMA	MALIGNANT	
LYMPH NODE, MESENTERIC		LYMPHOMA	MALIGNANT	
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
		LYMPHOMA	MALIGNANT	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MARKED	
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 2-19, Gross Finding = SPLEEN, ENLARGED, RED]				
STOMACH, GLANDULAR		MINERAL	MILD	
THYMUS		LYMPHOMA	MALIGNANT	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
		LYMPHOMA	MALIGNANT	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH				
- BRAIN HEMORRHAGE				
- MAMMARY GLAND FIBROADENOMA				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1303	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD384
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702763
Animal Note: Pallor and thinness were noted at necropsy, but did not correlate with any necropsy findings				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1304	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702764

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 20 X 6 mm; affects all lung lobes [FOCUS TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	
OVARY, RIGHT	CYST	CLEAR
Observation Comment: 3 mm diameter [CYST TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1304	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702764

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		FATTY CHANGE	FOCAL, MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MODERATE
OVARY		NO CORRESPONDING LESION	
Tissue Comment: TGL 1- NCL			
[NO CORRESPONDING LESION TGLS = TGL1-, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any necropsy finding.

ANIMAL ID: 1305	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD506
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702765

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 2 mm diameter; affects all lobes [FOCUS TGLS = TGL1]		
LYMPH NODE, MESENTERIC	ENLARGED	YELLOW
Observation Comment: 3 X 2 X 2 mm [ENLARGED TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	DARK
Observation Comment: 10 X 5 X 4 mm [ENLARGED TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1305	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD506
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702765

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND

Tissue Comment: Only one clitoral gland in slide set

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
MESENTERY	FAT	NECROSIS	MILD
[NECROSIS TGLS = TGL 3-18, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, YELLOW]			
OVARY	FOLLICLES	CYST	
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Ruffled coat, red discharges from nose and eyes, and thinness were noted at necropsy, but did not correlate with any nrcopsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1306	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD563
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702766

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 3 X 3 X 3 mm [CYST TGLS = TGL4]			
LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 4 X 3 mm [FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT, THORACIC	MASS	MOTTLED
	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 35 X 35 X 20 mm Observation Comment: 105 X 80 X 55 mm; ulcerated [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 3 X 3 X 3 mm [CYST TGLS = TGL5]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1306	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD563
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702766
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PITUITARY GLAND	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER	BILE DUCT	CYST		
[CYST TGLS = TGL 4-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]				
OVARY	FOLLICLES	CYST		
[CYST TGLS = TGL 5-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND FIBROADENOMA MULTIPLE				
Animal Note: Pallor, ruffled coat, and thinness were noted at necropsy, but did not correspond with any gross lesions.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1307	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702767

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	MOTTLED
Observation Comment: 25 X 24 X 11 mm; adhered to cranial pole of the left kidney [ENLARGED TGLS = TGL4]			
LIVER		DEFORMITY	TAN
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LUNG	LEFT, RIGHT	FOCUS	CAUDAL
Observation Comment: multiple; up to 3 X 2 mm [FOCUS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 3 mm diameter [CYST TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1307	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702767

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	MALIGNANT
[PHEOCHROMOCYTOMA TGLS = TGL 4-18, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, MOTTLED]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 3-12, Gross Finding = LIVER, DEFORMITY, TAN]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL]			
MAMMARY GLAND	DUCT	DILATION	MILD
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
UTERUS		ADENOCARCINOMA	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1308	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702768

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

LIVER	ANGIECTASIS	MINIMAL
	CLEAR CELL FOCUS	MULTIPLE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1309	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702769

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

CERVIX	MASS	WHITE
Observation Comment: 6 X 5 X 5 mm [MASS TGLS = TGL4]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 5 X 4 mm; affects all lung lobes [FOCUS TGLS = TGL3]		
OVARY, LEFT	CYST	CLEAR
Observation Comment: 13 X 11 X 11 mm [CYST TGLS = TGL2]		
OVARY, RIGHT	CYST	CLEAR
Observation Comment: multiple; up to 9 X 9 X 7 mm [CYST TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1309	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702769

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	CYST	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
OVARY	FOLLICLES	CYST	
Tissue Comment: TGL 1-14, TGL 2-14			
[CYST TGLS = TGL2-14, TGL1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
[CYST TGLS = TGL2-14, TGL1-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
UTERUS		ADENOCARCINOMA	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL
[ADENOCARCINOMA TGLS = TGL 4-16, Gross Finding = CERVIX, MASS, WHITE]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1310	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD608
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702770

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	LOBE, LEFT	FOCUS	MOTTLED
Observation Comment: 15 X 5 mm [FOCUS TGLS = TGL3]			
MAMMARY GLAND	THORACIC	MASS	MOTTLED
Observation Comment: 70 X 50 X 25 mm Observation Comment: 110 X 65 X 60 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 7 X 5 X 5 mm [CYST TGLS = TGL4]			
PITUITARY GLAND		ENLARGED	TAN
Observation Comment: 3 X 3 X 2 mm [ENLARGED TGLS = TGL5]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1310	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD608
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702770
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
PANCREAS	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		NECROSIS	MILD	
[NECROSIS TGLS = TGL 3-12, Gross Finding = LIVER, LOBE, LEFT, FOCUS, MOTTLED]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, THORACIC, MASS, MOTTLED]				
OVARY		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
[HYPERPLASIA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]				
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE				
Animal Note: Thinness and ruffled coat were seen at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1311	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702771

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 36 X 31 X 16 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 4 X 3 X 3 mm [CYST TGLS = TGL3]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 9 X 7 X 1 mm [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1311	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702771

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 3-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			

Animal Note: Red nasal discharge was seen at necropsy, but did not correlate with any gross lesion.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1312	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702772

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

ABDOMEN		ACCUMULUATION	RED
Observation Comment: approximately 10 ml [ACCUMULUATION TGLS = TGL1]			
KIDNEY, LEFT	PELVIS	DILATION	
Observation Comment: 6 X 5 X 3 mm; affects pelvis [DILATION TGLS = TGL4]			
KIDNEY, RIGHT	PELVIS	DILATION	
Observation Comment: 21 X 5 X 3 mm; affects pelvis [DILATION TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 13 X 3 mm; all lung lobes affected [FOCUS TGLS = TGL7]			
LYMPH NODE, MESENTERIC		ENLARGED	WHITE
Observation Comment: 55 X 33 X 23 mm; adhered to pancreas [ENLARGED TGLS = TGL6]			
MESENTERY		NODULE	YELLOW
Observation Comment: fat; 61 X 25 X 20 mm; surrounds and compresses the right uterine horn [NODULE TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1312	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702772
SKELETAL MUSCLE	DIAPHRAGM	THICK		WHITE
Observation Comment: up to 4 mm diameter; adhered to diaphragmatic surface of liver				
[THICK TGLS = TGL5]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1312	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702772
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, GLANDULAR	THYROID GLAND	TRACHEA	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE	THYMUS	URINARY BLADDER		
OBSERVATIONS				
ADRENAL GLAND		ADENOCARCINOMA	METASTATIC	
Observation Comment: Primary adenocarcinoma is in Uterus				
KIDNEY		ADENOCARCINOMA	METASTATIC	
	PELVIS	DILATION	MODERATE	
		NO CORRESPONDING LESION		
Observation Comment: Primary adenocarcinoma is in Uterus				
Tissue Comment: TGL 3-8, TGL 4-NCL				
[DILATION TGLS = TGL3-8, Gross Finding = KIDNEY, RIGHT, PELVIS, DILATION,]				
[NO CORRESPONDING LESION TGLS = TGL4-NCL, Gross Finding = KIDNEY, LEFT, PELVIS, DILATION,]				
LIVER		ADENOCARCINOMA	METASTATIC	
Observation Comment: Primary adenocarcinoma is in Uterus				
LUNG		ADENOCARCINOMA	METASTATIC	
	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
	VENULE	THROMBUS		
Observation Comment: Primary adenocarcinoma is in Uterus				
Tissue Comment: TGL 7-6, TGL 7-7				
[INFILTRATION CELLULAR TGLS = TGL7-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
MESENTERY		ADENOCARCINOMA	METASTATIC	
Tissue Comment: TGL 2-18, TGL 6-20				
Observation Comment: Primary adenocarcinoma is in Uterus				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1312	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD612
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702772
[ADENOCARCINOMA TGLS = TGL2-18, TGL6-20, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, WHITE]				
[ADENOCARCINOMA TGLS = TGL2-18, TGL6-20, Gross Finding = MESENTERY, NODULE, YELLOW]				
OVARY				
Tissue Comment: Only one ovary in slide set				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA		MILD
SKELETAL MUSCLE		ADENOCARCINOMA		METASTATIC
Observation Comment: Primary adenocarcinoma is in Uterus				
[ADENOCARCINOMA TGLS = TGL 5-19, Gross Finding = SKELETAL MUSCLE, DIAPHRAGM, THICK, WHITE]				
STOMACH, FORESTOMACH		ADENOCARCINOMA		METASTATIC
Observation Comment: Primary adenocarcinoma is in Uterus				
UTERUS		ADENOCARCINOMA		
	ENDOMETRIUM	HYPERPLASIA		CYSTIC, MILD
CONTRIBUTORY CAUSE OF DEATH - UTERUS ADENOCARCINOMA				
Animal Note: Thinness, ruffled coat, and pallor were noted at necropsy, but did not correlate with any gross findings.				

ANIMAL ID: 1313	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702773

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple;up to 3 X 2 mm			
[FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	GREEN
	LEFT, AXILLARY	MASS	MOTTLED
Observation Comment: 36 X 30 X 21 mm; blood-filled			
Observation Comment: 40 X 29 X 15 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1313	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702773
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]				
MAMMARY GLAND		ADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[ADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, GREEN]				
[ADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, MOTTLED]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1314	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702774

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	LEFT, THORACIC	MASS	TAN
Observation Comment: 25 X 25 X 10 mm; accounts for distended abdomen seen clinically			
Observation Comment: 22 X 16 X 9 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		NODULE	RED
Observation Comment: 4 X 4 X 2 mm			
[NODULE TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1314	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702774

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MINIMAL
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, NODULE, RED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1315	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD598
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702775

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 9 X 4 mm; all lung lobes affected			
[FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	LEFT, THORACIC	MASS	TAN
	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 80 X 60 X 40 mm			
Observation Comment: 60 X 50 X 30 mm			
Observation Comment: 50 X 45 X 25 mm			
Observation Comment: 90 X 85 X 35 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL4]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1315	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD598
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702775

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD
Tissue Comment: TGL 5-6, TGL 5-7			
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20, TGL 4-21			
[FIBROADENOMA TGLS = TGL4-21, TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL4-21, TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
[FIBROADENOMA TGLS = TGL4-21, TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
PANCREAS	DUCT	CYST	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Pallor thinness and ruffled coat were seen at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1316	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702776

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 1 X 1 mm; involves all lobes [FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	DARK
Observation Comment: 11 X 8 X 4 mm [ENLARGED TGLS = TGL2]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1316	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702776

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Ruffled coat was seen at necropsy, but not correlated with any gross lesion.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1317	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702777

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 35 X 25 X 25 mm			
Observation Comment: 40 X 30 X 15 mm			
Observation Comment: 65 X 60 X 20 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL3]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 5 X 3 X 3 mm			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1317	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702777

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	BILE DUCT	CYST	
	BILE DUCT	HYPERPLASIA	MINIMAL
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	MULTIPLE
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1318	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD604
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702778

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	ACCESSORY LOBE	FOCUS	WHITE
	LEFT	FOCUS	WHITE
	RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: 2 X 1 mm			
Observation Comment: multiple; up to 3 X 2 mm			
[FOCUS TGLS = TGL5]			
[FOCUS TGLS = TGL4]			
[FOCUS TGLS = TGL3]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 25 X 15 X 8 mm			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PANCREAS		SWELLING	CLEAR
Observation Comment: TGL2 consists of edema separating the lobules of the pancreas			
[SWELLING TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1318	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD604
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702778

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-7, TGL 4-6, TGL 5-7			
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, TGL3-7, Gross Finding = LUNG, ACCESSORY LOBE, FOCUS, WHITE]			
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, TGL3-7, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, TGL3-7, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MARKED
[DILATION TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
PANCREAS	ARTERIOLE	INFLAMMATION	CHRONIC, MODERATE
[INFLAMMATION TGLS = TGL 2-9, Gross Finding = PANCREAS, SWELLING, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

PRIMARY CAUSE OF DEATH	- UNDETERMINED
CONTRIBUTORY CAUSE OF DEATH	- PANCREAS INFLAMMATION ARTERIOLE CHRONIC

Animal Note: Thinness and ruffled coat were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1319	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702779

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER		DISCOLORATION	MOTTLED
Observation Comment: all lobes [DISCOLORATION TGLS = TGL3]			
LUNG		DISCOLORATION	MOTTLED
Observation Comment: all lobes [DISCOLORATION TGLS = TGL4]			
MAMMARY GLAND	THORACIC	MASS	DIFFUSE, MOTTLED
Observation Comment: 43 X 30 X 17 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		MASS	PINK
Observation Comment: 7 mm diameter [MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1319	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702779

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE	THYMUS

OBSERVATIONS

HEART	HISTIOCYTIC SARCOMA	
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	HISTIOCYTIC SARCOMA	
[HISTIOCYTIC SARCOMA TGLS = TGL 3-12, Gross Finding = LIVER, DISCOLORATION, MOTTLED]		
LUNG	HISTIOCYTIC SARCOMA	
Tissue Comment: TGL 4-6, TGL 4-7		
[HISTIOCYTIC SARCOMA TGLS = TGL4-6, Gross Finding = LUNG, DISCOLORATION, MOTTLED]		
LYMPH NODE, MANDIBULAR	HISTIOCYTIC SARCOMA	
MAMMARY GLAND	FIBROADENOMA	
	HISTIOCYTIC SARCOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, THORACIC, MASS, DIFFUSE, MOTTLED]		
PITUITARY GLAND	PARS DISTALIS	
	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, MASS, PINK]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD

CONTRIBUTORY CAUSE OF DEATH	- LUNG HISTIOCYTIC SARCOMA
	- PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Pallor, thinness, and ruffled coat were noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1320	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD482
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702780

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT	MASS	TAN
	LOBE, MIDDLE, RIGHT	MASS	TAN
	RIGHT, CRANIAL	MASS	TAN
Tissue Comment: Additional lung nodules and masses present; five largest recorded			
Observation Comment: 11 X 11 X 5 mm			
Observation Comment: 15 X 14 X 9 mm			
Observation Comment: 10 X 10 X 6 mm			
Observation Comment: 22 X 20 X 8 mm			
Observation Comment: 12 X 9 X 3 mm			
[MASS TGLS = TGL4]			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL5]			
[MASS TGLS = TGL6]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	RED
Observation Comment: 50 X 41 X 32 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1320	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD482
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702780
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	LYMPH NODE	THYMUS	
OBSERVATIONS				
AORTA		ADENOCARCINOMA	METASTATIC	
Observation Comment: Primary adenocarcinoma in Mammary Gland				
CLITORAL GLAND				
Tissue Comment: Only one clitoral gland in slide set				
KIDNEY		ADENOCARCINOMA	METASTATIC	
Observation Comment: Primary adenocarcinoma in Mammary Gland				
LIVER		NECROSIS	MODERATE	
LUNG		ADENOCARCINOMA	METASTATIC	
Tissue Comment: TGL 2-18, TGL 3-18, TGL 4-18, TGL 5-7, TGL 5-19, TGL 6-7, TGL 6-19				
Observation Comment: Primary adenocarcinoma in Mammary Gland				
[ADENOCARCINOMA TGLS = TGL2-18, TGL5-7, TGL6-7, TGL3-18, TGL4-18, Gross Finding = LUNG, LEFT, MASS, TAN]				
[ADENOCARCINOMA TGLS = TGL2-18, TGL5-7, TGL6-7, TGL3-18, TGL4-18, Gross Finding = LUNG, LOBE, MIDDLE, RIGHT, MASS, TAN]				
[ADENOCARCINOMA TGLS = TGL2-18, TGL5-7, TGL6-7, TGL3-18, TGL4-18, Gross Finding = LUNG, RIGHT, CRANIAL, MASS, TAN]				
MAMMARY GLAND		ADENOCARCINOMA		
	DUCT	DILATION	MILD	
[ADENOCARCINOMA TGLS = TGL 1-20, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, RED]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND ADENOCARCINOMA			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1321	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD605
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702781

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
	RIGHT, ABDOMINAL	MASS	MOTTLED
	RIGHT, AXILLARY	MASS	TAN

Observation Comment: 60 X 45 X 40 mm

Observation Comment: 115 X 110 X 45 mm; ulcerated; vagina and clitoral glands are incorporated in TGL 1

Observation Comment: 33 X 23 X 19 mm

[MASS TGLS = TGL2]

[MASS TGLS = TGL1]

[MASS TGLS = TGL3]

NO CORRELATE

TO OBSERVATION / MASS

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1321	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD605
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702781

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

CLITORAL GLAND	LYMPH NODE

OBSERVATIONS

LIVER		CLEAR CELL FOCUS	MULTIPLE
		FATTY CHANGE	FOCAL, MINIMAL
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Pallor was noted at necropsy, but did not correspond to any gross lesion.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1322	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702782

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 5 X 1 mm [FOCUS TGLS = TGL3]			
MAMMARY GLAND	ABDOMINAL	MASS	MOTTLED
Observation Comment: 125 X 90 X 45 mm Observation Comment: 40 X 35 X 20 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1322	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702782

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
THYROID GLAND		ECTOPIC TISSUE	MINIMAL
Observation Comment: appears to be ectopic pituitary gland			

Animal Note: Kinked tail, thinness, ruffled coat, pallor, and red ocular discharge were seen at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1323	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702783

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 6 X 6 mm; affects all lung lobes [FOCUS TGLS = TGL4]			
LYMPH NODE, MESENTERIC		ENLARGED	RED
Observation Comment: 6 X 4 X 4 mm [ENLARGED TGLS = TGL5]			
MAMMARY GLAND	LEFT, THORACIC RIGHT, THORACIC	MASS MASS	MOTTLED TAN
Observation Comment: 96 X 90 X 19 mm Observation Comment: 32 X 25 X 10 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 6 X 4 X 2 mm [ENLARGED TGLS = TGL6]			
UTERUS	LEFT	MASS	RED
Observation Comment: horn; 12 X 4 X 4 mm [MASS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1323	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702783

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PARATHYROID GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ISLETS, PANCREATIC		ADENOMA	
[ADENOMA TGLS = TGL 5-19, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, RED]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	CYST	
		MIXED CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MINIMAL
[ADENOMA TGLS = TGL 6-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL
	ENDOMETRIUM	STROMAL SARCOMA	
[STROMAL SARCOMA TGLS = TGL 3-17, Gross Finding = UTERUS, LEFT, MASS, RED]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1324	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702784

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LIVER	CAUDATE LOBE	CYST	CLEAR
	LOBE, LEFT	CYST	CLEAR
Observation Comment: 9 X 7 X 1 mm			
Observation Comment: 2 mm diameter			
[CYST TGLS = TGL5]			
[CYST TGLS = TGL6]			
LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 5 X 4 mm			
[FOCUS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 4 mm diameter			
[CYST TGLS = TGL3]			
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 3 mm diameter			
[CYST TGLS = TGL2]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 7 X 6 X 3 mm			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1324	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702784
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER	BILE DUCT	CYST		
	BILE DUCT	EOSINOPHILIC FOCUS		
		HYPERPLASIA	MILD	
Tissue Comment: TGL 5-18, TGL 6-12				
[CYST TGLS = TGL6-12, TGL5-18, Gross Finding = LIVER, CAUDATE LOBE, CYST, CLEAR]				
[CYST TGLS = TGL6-12, TGL5-18, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
OVARY	BILATERAL, FOLLICLES	CYST		
Tissue Comment: TGL 2-14, TGL 3-14				
[CYST TGLS = TGL2-14, TGL3-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
[CYST TGLS = TGL2-14, TGL3-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED	

ANIMAL ID: 1325	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702785

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
Observation Comment: 30 X 25 X 9 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 6 X 4 X 3 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1325	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702785

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE			

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1326	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702786

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 6 X 5 X 4 mm [CYST TGLS = TGL2]			
MAMMARY GLAND	LEFT, AXILLARY	MASS	MOTTLED
Observation Comment: 110 X 100 X 28 mm; ulcerated [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	RIGHT	NODULE	MOTTLED
Observation Comment: horn; 4 X 4 X 3 mm [NODULE TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1326	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702786

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	BILE DUCT	CYST	
[CYST TGLS = TGL 2-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL
[HYPERPLASIA TGLS = TGL 3-17, Gross Finding = UTERUS, RIGHT, NODULE, MOTTLED]			

Animal Note: Ruffled coat, pallor, and thinness were seen at necropsy, but were not correlated with any gross lesions.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1327	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD592
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702787

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

MAMMARY GLAND	INGUINAL	MASS	MOTTLED
	INGUINAL, LEFT	MASS	TAN
Observation Comment: anogenital; 50 X 45 X 40 mm; partly cannibalized			
Observation Comment: 50 X 35 X 30 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
STOMACH, FORESTOMACH		FOCUS	DARK
Observation Comment: up to 2 X 2 mm; found at trim			
[FOCUS TGLS = TGL4]			
STOMACH, GLANDULAR		FOCUS	DARK
Observation Comment: up to 2 X 2 mm; found at trim			
[FOCUS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1327	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD592
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702787
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
CLITORAL GLAND				
Tissue Comment: Only one clitoral gland in slide set				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		NECROSIS	MILD	
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, INGUINAL, LEFT, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]				
PANCREAS	ACINAR CELL	ADENOMA		
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, FORESTOMACH		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = STOMACH, FORESTOMACH, FOCUS, DARK]				
STOMACH, GLANDULAR		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = STOMACH, GLANDULAR, FOCUS, DARK]				
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA MULTIPLE			

ANIMAL ID: 1328	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD583
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702788

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	RIGHT, AXILLARY	MASS	MOTTLED
	RIGHT, VENTRAL	MASS	TAN
Observation Comment: 64 X 50 X 34 mm; partially cannibalized			
Observation Comment: cervical; 41 X 34 X 24 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1328	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD583
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702788

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND	INFLAMMATION	SUPPURATIVE, MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MILD
MAMMARY GLAND	FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19		
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]		
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, VENTRAL, MASS, TAN]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Animal verified at necropsy to be partially cannibalized as seen clinically

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1329	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD594
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702789

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; all lobes affected [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, INGUINAL	MASS	MOTTLED
Observation Comment: 125 X 75 X 60 mm; ulcerated [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1329	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD594
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702789
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MODERATE	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	FIBROADENOMA		
SPLEEN		HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
		METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND FIBROADENOMA				
Animal Note: Thinness was confirmed at necropsy, but did not correlate with any gross finding.				

ANIMAL ID: 1330	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD262
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702790

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	RIGHT, AXILLARY	MASS	TAN
Observation Comment: 80 X 70 X 35 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1330	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD262
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702790
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, GLANDULAR		MINERAL	MILD	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA			
Animal Note: Scab on forelimb (right), nasal red discharge, and pallor were seen at necropsy, but did not correlate with any specific necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1331	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702791

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 3 x 2 mm [FOCUS TGLS = TGL2]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 15 X 15 X 12 mm [CYST TGLS = TGL5]			
THORAX		ACCUMULUATION	RED
Observation Comment: approximately 5 ml [ACCUMULUATION TGLS = TGL1]			
UTERUS	LEFT	MASS	TAN
Observation Comment: horn; 10 X 5 X 4 mm [MASS TGLS = TGL6]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1331	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702791

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
Tissue Comment: TGL 3-8, TGL 4-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 5-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	STROMAL SARCOMA	
[STROMAL SARCOMA TGLS = TGL 6-17, Gross Finding = UTERUS, LEFT, MASS, TAN]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1332	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702792

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1332	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702792

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1333	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702793

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 10 X 5 mm; affects all lung lobes [FOCUS TGLS = TGL4]			
MAMMARY GLAND	ABDOMINAL	MASS	TAN
	LEFT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 47 X 40 X 20 mm; correlates with additional mass, abdomen,bilateral, large, (greater than 15 mm), 1 Observation Comment: 17 X 10 X 5 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 5 mm diameter [CYST TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1333	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702793

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MODERATE
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 3-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
SPLEEN	WHITE PULP	ATROPHY	MARKED
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1334	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702794

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects all lung lobes			
[FOCUS TGLS = TGL4]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
	LEFT, THORACIC	MASS	RED
	RIGHT, THORACIC	MASS	TAN
Observation Comment: 70 X 50 X 20 mm			
Observation Comment: 20 X 20 X 9 mm			
Observation Comment: 76 X 50 X 25 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 6 X 5 X 4 mm			
[ENLARGED TGLS = TGL5]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1334	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702794

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOMA	
	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[ADENOMA TGLS = TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, RED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MILD
[ADENOMA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Kinked tail was noted at necropsy, but was not correlated with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1335	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD491
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702795

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT
KIDNEY, RIGHT	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

NOT PRESENT

EYE	HARDERIAN GLAND

OBSERVATIONS

EYE			
Tissue Comment: Cannibalized			
HARDERIAN GLAND			
Tissue Comment: Cannibalized			
LUNG	LEFT	FOCUS	WHITE
Observation Comment: 3 X 2 mm			
[FOCUS TGLS = TGL3]			
MAMMARY GLAND	ABDOMINAL	MASS	MOTTLED
Observation Comment: 80 X 69 X 40 mm; enveloped vaginal opening			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		MASS	DARK
Observation Comment: 60 X 55 X 30 mm			
[MASS TGLS = TGL2]			
SKIN	LEFT, DORSAL	MASS	TAN
Tissue Comment: Facial skin cannibalized			
Observation Comment: 50 X 40 X 20 mm			
[MASS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1335	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD491
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702795

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

EYE	HARDERIAN GLAND	LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		NECROSIS	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		NECROSIS	MINIMAL
LUNG		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 4-20			
[FIBROADENOMA TGLS = TGL4-20, TGL1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL4-20, TGL1-18, Gross Finding = SKIN, LEFT, DORSAL, MASS, TAN]			
OVARY		INFLAMMATION	CHRONIC, MARKED
[INFLAMMATION TGLS = TGL 2-19, Gross Finding = OVARY, RIGHT, MASS, DARK]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

CONTRIBUTORY CAUSE OF DEATH - OVARY INFLAMMATION CHRONIC

Animal Note: Partial cannibalization was noted at necropsy, but did not correlate with any necropsy finding.

ANIMAL ID: 1336	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD245
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702796

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 47 X 40 X 30 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1336	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD245
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702796
HISTOPATH TISSUE STATUS				
Within Normal Limits				
BONE MARROW	BONE, FEMUR	BRAIN	CLITORAL GLAND	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		NECROSIS	MILD	
AORTA		MINERAL	MODERATE	
HEART		CARDIOMYOPATHY	MILD	
		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	EPITHELIUM, ALVEOLAR/BRONCHIOLAR	HYPERPLASIA	MINIMAL	
	INTERSTITIUM	MINERAL	MARKED	
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
STOMACH, GLANDULAR		MINERAL	MODERATE	
UTERUS	ENDOMETRIUM	CYST	MULTIPLE	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH	- LUNG MINERAL INTERSTITIUM			
Animal Note: Nasal discharge (red), ruffled coat, and pallor were noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1337	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702797

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 2 X 2 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 40 X 35 X 25 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1337	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702797

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART	ENDOCARDIUM, SCHWANN CELL	HYPERPLASIA	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL

Tissue Comment: TGL 2-7, TGL 2-7

[INFILTRATION CELLULAR TGLS = TGL2-7, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]

MAMMARY GLAND

FIBROADENOMA

[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]

ANIMAL ID: 1338	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702798

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, INGUINAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	TAN
Observation Comment: 85 X 65 X 30 mm			
Observation Comment: 30 X 30 X 10 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1338	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702798

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		BASOPHILIC FOCUS	
		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1339	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD506
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702799

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND		ENLARGED	
Observation Comment: 2 X expected size; found at trim [ENLARGED TGLS = TGL5]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; TGL4 affects all lobes (added by MJR upon analysis) found at trim [FOCUS TGLS = TGL4]			
LYMPH NODE, MANDIBULAR		ENLARGED	RED
Observation Comment: 2 X expected size [ENLARGED TGLS = TGL3]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	LEFT, THORACIC	MASS	TAN
Observation Comment: 80 X 50 X 20 mm Observation Comment: 80 X 55 X 30 mm; ulcerated [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1339	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD506
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702799
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		FATTY CHANGE	MODERATE	
[FATTY CHANGE TGLS = TGL 5-11, Gross Finding = ADRENAL GLAND, ENLARGED,]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 4-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]				
LYMPH NODE, MANDIBULAR		CONGESTION	MILD	
[CONGESTION TGLS = TGL 3-12, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, RED]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA MULTIPLE			
Animal Note: Ruffled coat, pallor, and thinness were noted at necropsy, but did not correlate with any necrospy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1340	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD454
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702800

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 75 X 55 X 45 mm; ulcerated [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	DORSAL, THORACIC	CRUST	RED
Observation Comment: 35 X 30 mm; areas of excoriation and alopecia over entire rat's skin, largest confluent area collected (TGL 2) [CRUST TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1340	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD454
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702800

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PITUITARY GLAND	SALIVARY GLAND
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = LUNG, FOCUS, WHITE]		
MAMMARY GLAND	FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]		
SKIN	ULCER	MILD
[ULCER TGLS = TGL 2-19, Gross Finding = SKIN, DORSAL, THORACIC, CRUST, RED]		
UTERUS	HYPERPLASIA	CYSTIC, MILD
	METAPLASIA	SQUAMOUS, MILD

CONTRIBUTORY CAUSE OF DEATH - SKIN ULCER

Animal Note: The scabs on skin located in abdomen, bilateral, head, bilateral, neck, bilateral, hindlimb, bilateral, and face, bilateral were noted at necropsy, but not correlated to any gross findings; a single large scab (dorsum, bilateral) was sampled and considered representative of the rest.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1341	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD610
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702801

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL5]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LUNG	LEFT	FOCUS	WHITE
Observation Comment: 3 X 2 mm [FOCUS TGLS = TGL3]			
MAMMARY GLAND	RIGHT, INGUINAL	MASS	TAN
Observation Comment: 35 X 30 X 20 mm [MASS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 1 mm diameter [CYST TGLS = TGL6]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 6 X 5 X 4 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1341	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD610
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702801
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 4-8, TGL 5-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL5-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		FATTY CHANGE	FOCAL, MINIMAL	
LUNG		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = LUNG, LEFT, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, TAN]				
OVARY		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 6-NCL, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE	
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1342	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD555
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702802

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, LEFT	FOCUS	WHITE
Observation Comment: 2 X 2 mm; found at trim [FOCUS TGLS = TGL7]			
LUNG	LOBE, LEFT	FOCUS	FOUR, WHITE
	RIGHT	FOCUS	TWO, WHITE
	RIGHT, CRANIAL	FOCUS	WHITE
Observation Comment: up to 3 X 1 mm Observation Comment: caudal; up to 2 X 2 mm Observation Comment: 2 X 1 mm [FOCUS TGLS = TGL4] [FOCUS TGLS = TGL6] [FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	LEFT, CERVICAL	MASS	TAN
	RIGHT, INGUINAL	MASS	MOTTLED
Observation Comment: 55 X 40 X 30 mm; ulcerated Observation Comment: 55 X 40 X 22 mm Observation Comment: 30 X 27 X 13 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1342

TRT#: F1-2

DOSE: 30 mg/L

SEX: Female

REMOVAL DAY: SD555

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1702802

[MASS TGLS = TGL2]

[MASS TGLS = TGL3]

NO CORRELATE

TO OBSERVATION / MASS

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1342	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD555
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702802
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 7-NCL, Gross Finding = LIVER, LOBE, LEFT, FOCUS, WHITE]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 5-7, TGL 6-7				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, TGL6-7, Gross Finding = LUNG, LOBE, LEFT, FOCUS, FOUR, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, TGL6-7, Gross Finding = LUNG, RIGHT, CRANIAL, FOCUS, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL5-7, TGL4-6, TGL6-7, Gross Finding = LUNG, RIGHT, FOCUS, TWO, WHITE]				
MAMMARY GLAND		ADENOMA		
	DUCT	DILATION	MILD	
		FIBROADENOMA		
Tissue Comment: TGL 2-19, TGL 3-20				
[ADENOMA TGLS = TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, CERVICAL, MASS, TAN]				
SKIN		FIBROMA		
[FIBROMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND ADENOMA				
- MAMMARY GLAND FIBROADENOMA				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1342	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD555
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702802
- SKIN FIBROMA				

Animal Note: Pallor was noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1343	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD469
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702803

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, MEDIAN	DEFORMITY	
Observation Comment: 12 X 10 X 7 mm; consistent with HDN (hepatodiaphragmatic nodule) herniated through diaphragm [DEFORMITY TGLS = TGL2]			
LUNG	LEFT	FOCUS	WHITE
	RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 2 mm diameter Observation Comment: multiple; up to 4 X 2 mm [FOCUS TGLS = TGL4] [FOCUS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
NOSE			
Tissue Comment: Nasal discharge noted when flushing nares			
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 5 X 3 X 2 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1343	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD469
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702803

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
		HEPATODIAPHRAGMATIC NODULE	
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL 2-18, Gross Finding = LIVER, LOBE, MEDIAN, DEFORMITY,]			
LUNG		NO CORRESPONDING LESION	
Tissue Comment: TGL 1-NCL, TGL 4-NCL			
[NO CORRESPONDING LESION TGLS = TGL4-NCL, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
[NO CORRESPONDING LESION TGLS = TGL1-NCL, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
[HYPERPLASIA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1344	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702804

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR
	RIGHT	CYST	CLEAR
	LOBE, LEFT	FOCUS	DARK, THREE
	RIGHT	FOCUS	DARK, TWO
Observation Comment: 3 X 3 X 2 mm			
Observation Comment: anterior; 6 X 6 X 1 mm			
Observation Comment: up to 3 X 2 mm			
Observation Comment: anterior; 3 X 2 mm			
[CYST TGLS = TGL6]			
[CYST TGLS = TGL3]			
[FOCUS TGLS = TGL5]			
[FOCUS TGLS = TGL4]			
LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 1 X 1 mm			
[FOCUS TGLS = TGL7]			
MAMMARY GLAND	LEFT, AXILLARY	MASS	TAN
Observation Comment: 43 X 31 X 8 mm			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1344	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702804
OVARY, LEFT		CYST	CLEAR	
Observation Comment: 6 X 5 X 3 mm				
[CYST TGLS = TGL2]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1344	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702804
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER	BILE DUCT	CYST		
	BILE DUCT	HYPERPLASIA	MINIMAL	
Tissue Comment: TGL 3-19, TGL 4-19, TGL 4-19, TGL 5-20, TGL 6-20				
[CYST TGLS = TGL6-20, TGL4-19, TGL3-19, TGL5-20, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
[CYST TGLS = TGL6-20, TGL4-19, TGL3-19, TGL5-20, Gross Finding = LIVER, LOBE, LEFT, FOCUS, DARK, THREE]				
[CYST TGLS = TGL6-20, TGL4-19, TGL3-19, TGL5-20, Gross Finding = LIVER, RIGHT, CYST, CLEAR]				
[CYST TGLS = TGL6-20, TGL4-19, TGL3-19, TGL5-20, Gross Finding = LIVER, RIGHT, FOCUS, DARK, TWO]				
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MINIMAL	
Tissue Comment: TGL 7-6, TGL 7-7, TGL 7-21				
[INFLAMMATION TGLS = TGL7-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, TAN]				
OVARY		CYST	PARAOVARIAN	
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]				
PANCREAS	ACINUS	ATROPHY	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
STOMACH, FORESTOMACH		HYPERKERATOSIS	MILD	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
		STROMAL POLYP		
Animal Note: Kinked tail was seen at necropsy, but did not correlate with any gross finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1345	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702805

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

ADRENAL GLAND Observation Comment: 12 X 12 X 10 mm [ENLARGED TGLS = TGL4]	LEFT	ENLARGED	MOTTLED
LIVER Observation Comment: 3 mm diameter [CYST TGLS = TGL6]	CAUDATE LOBE	CYST	YELLOW
MAMMARY GLAND Observation Comment: 75 X 55 X 45 mm Observation Comment: 60 X 40 x 25 mm Observation Comment: 24 X 24 X 14 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2] [MASS TGLS = TGL3]	LEFT, ABDOMINAL RIGHT, INGUINAL	MASS MASS	MOTTLED TAN
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND Observation Comment: 6 X 5 X 4 mm [ENLARGED TGLS = TGL5]		ENLARGED	MOTTLED

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1345	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702805

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		PHEOCHROMOCYTOMA	MALIGNANT
[PHEOCHROMOCYTOMA TGLS = TGL 4-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, MOTTLED]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
	BILE DUCT	CYST	
[CYST TGLS = TGL 6-21, Gross Finding = LIVER, CAUDATE LOBE, CYST, YELLOW]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE
		STROMAL POLYP	

Animal Note: Kinked tail and pallor were noted at necropsy, but did not correlate with any gross findings.

ANIMAL ID: 1346	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702806

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	ABDOMINAL	MASS	MOTTLED
Observation Comment: 80 X 75 X 30 mm			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1346	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702806

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any specific gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1347	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702807

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
	RIGHT, INGUINAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	TAN
	RIGHT, ABDOMINAL	NODULE	DARK
Observation Comment: 80 X 65 X 40 mm			
Observation Comment: 44 X 31 X 23 mm			
Observation Comment: 41 X 37 X 15 mm			
Observation Comment: 4 X 4 X 2 mm; found at trim			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL3]			
[NODULE TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
STOMACH, FORESTOMACH		NODULE	
Observation Comment: 4 X 3 X 2 mm; found at trim			
[NODULE TGLS = TGL5]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1347	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702807

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
OVARY	PANCREAS	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
NOSE	MUCOSA	INFLAMMATION	CHRONIC, MINIMAL
SKELETAL MUSCLE		HEMANGIOSARCOMA	
[HEMANGIOSARCOMA TGLS = TGL 4-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, NODULE, DARK]			
STOMACH, FORESTOMACH		HYPERKERATOSIS	MILD
	SUBMUCOSA	INFLAMMATION	CHRONIC, MILD
[HYPERKERATOSIS TGLS = TGL 5-9, Gross Finding = STOMACH, FORESTOMACH, NODULE,]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Thinness noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1348	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702808

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 90 X 78 X 20 mm [MASS TGLS = TGL1]			
MESENTERY		NODULE	WHITE
Observation Comment: six; fat; up to 5 X 4 X 3 mm [NODULE TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT			
Tissue Comment: Left ovary was incorporated in TGL 4			
SPLEEN		ENLARGED	RED
Observation Comment: 61 X 15 X 5 mm [ENLARGED TGLS = TGL2]			
UTERUS	LEFT	MASS	MOTTLED
Observation Comment: 87 X 84 X 33 mm; incorporates left uterine horn and left ovary; accounts for distended abdomen seen clinically [MASS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1348	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702808

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
LUNG		GRANULOSA CELL TUMOR	METASTATIC
Observation Comment: Primary granulosa cell tumor is in ovary			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]			
MESENTERY		GRANULOSA CELL TUMOR	METASTATIC
Observation Comment: Primary granulosa cell tumor is in ovary			
[GRANULOSA CELL TUMOR TGLS = TGL 3-19, Gross Finding = MESENTERY, NODULE, WHITE]			
OVARY		GRANULOSA CELL TUMOR	MALIGNANT
[GRANULOSA CELL TUMOR TGLS = TGL 4-20, Gross Finding = UTERUS, LEFT, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 2-8, Gross Finding = SPLEEN, ENLARGED, RED]			
STOMACH, FORESTOMACH		ULCER	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS		GRANULOSA CELL TUMOR	METASTATIC
Observation Comment: Primary granulosa cell tumor is in ovary			

CONTRIBUTORY CAUSE OF DEATH - OVARY GRANULOSA CELL TUMOR MALIGNANT

Animal Note: Ruffled coat and pallor were seen at necropsy, but did not correlate with any specific gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1349	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702809

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 2 mm; all lung lobes affected [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, AXILLARY	MASS	TAN
Observation Comment: 23 X 20 X 15 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1349	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702809

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	THYMUS	TRACHEA
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE	URINARY BLADDER

OBSERVATIONS

ADRENAL GLAND			
Tissue Comment: Only one adrenal gland in slide set			
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
STOMACH, GLANDULAR		MINERAL	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1350	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702810

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

CERVIX		MASS	
Observation Comment: 10 X 7 X 5 mm; found at trim [MASS TGLS = TGL5]			
LIVER	RIGHT	NODULE	TAN
Observation Comment: posterior; 5 X 4 X 3 mm [NODULE TGLS = TGL4]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 1 mm; affects all lung lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT, CERVICAL	MASS	MOTTLED
	LEFT, CERVICAL	MASS	TAN
Observation Comment: 73 X 60 X 20 mm Observation Comment: 22 X 22 X 10 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1350	TRT#: F1-2	DOSE: 30 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702810

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
		EOSINOPHILIC FOCUS	
[EOSINOPHILIC FOCUS TGLS = TGL 4-20, Gross Finding = LIVER, RIGHT, NODULE, TAN]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, CERVICAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, CERVICAL, MASS, TAN]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	
UTERUS, CERVIX		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 5-NCL, Gross Finding = CERVIX, MASS,]			

ANIMAL ID: 1351	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD454
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702881

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
Observation Comment: 105 X 80 X 55 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	RED
Observation Comment: 10 X 5 X 5 mm			
[CYST TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1351	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD454
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702881

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, RIGHT, CYST, RED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA

Animal Note: Thinness, pallor, and ruffled coat were seen at necropsy, but not correlated with any gross findings.

ANIMAL ID: 1352	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD500
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702882

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, MEDIAN	FOCUS	WHITE
Observation Comment: 2 X 2 mm [FOCUS TGLS = TGL1]			
LUNG		FOCUS	YELLOW
Observation Comment: multiple; up to 4 X 3 mm; affects all lobes [FOCUS TGLS = TGL2]			
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 5 X 4 X 2 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1352	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD500
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702882

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 1-NCL, Gross Finding = LIVER, LOBE, MEDIAN, FOCUS, WHITE]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, YELLOW]			
PITUITARY GLAND		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 3-NCL, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
THYROID GLAND	C-CELL	ADENOMA	
	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1353	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702883

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 6 X 2 mm [FOCUS TGLS = TGL2]			
LYMPH NODE, MANDIBULAR		ENLARGED	CLEAR
Observation Comment: 5 X expected size [ENLARGED TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1353	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702883

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
		MIXED CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
LYMPH NODE, MANDIBULAR	LYMPHATIC, SINUS	ECTASIA	MODERATE
[ECTASIA TGLS = TGL 1-12, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

ANIMAL ID: 1354	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD325
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702884

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
Observation Comment: 90 X 90 X 40 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1354	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD325
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702884
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
KIDNEY	LIVER	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA	
UTERUS	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE	URINARY BLADDER			
OBSERVATIONS				
ADRENAL GLAND				
Tissue Comment: Only one adrenal gland in slide set				
MAMMARY GLAND	FIBROADENOMA			
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS		INCREASED, MINIMAL	
STOMACH, GLANDULAR	MINERAL		MILD	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA			
Animal Note: Thinness and red nasal discharge seen at necropsy, but not correlated with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1355	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD632
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702885

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL6]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	RED
Observation Comment: 60 X 40 X 30 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 4 X 3 X 3 mm [ENLARGED TGLS = TGL5]			
SALIVARY GLANDS	LEFT	NODULE	WHITE
Observation Comment: 3 X 3 X 3 mm [NODULE TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1355	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD632
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702885
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	SKIN	
STOMACH, GLANDULAR	TRACHEA	URINARY BLADDER	UTERUS	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD	
Tissue Comment: TGL 6-6, TGL 6-7				
[INFILTRATION CELLULAR TGLS = TGL6-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, RED]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
SALIVARY GLAND		FIBROSIS	MODERATE	
[FIBROSIS TGLS = TGL 4-19, Gross Finding = SALIVARY GLANDS, LEFT, NODULE, WHITE]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
STOMACH, FORESTOMACH		HYPERKERATOSIS	MODERATE	
THYROID GLAND	C-CELL	ADENOMA		
	C-CELL	HYPERPLASIA	MILD	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
- PITUITARY GLAND ADENOMA PARS DISTALIS				

Animal Note: Ruffled coat, pallor, and thinness were noted at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1356	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702886

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 5 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL1]		
OVARY, LEFT	CYST	CLEAR
Observation Comment: 3 X 3 X 3 mm [CYST TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1356	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702886

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
ISLETS, PANCREATIC		ADENOMA	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
OVARY		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 2-NCL, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
THYROID GLAND	C-CELL	ADENOMA	MULTIPLE
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE

ANIMAL ID: 1357	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD625
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702887

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 3 X 1 mm; affects all lung lobes [FOCUS TGLS = TGL1]		
PITUITARY GLAND	ENLARGED	MOTTLED
Observation Comment: 13 X 6 X 5 mm [ENLARGED TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1357	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD625
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702887
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
PANCREAS	ACINUS	ATROPHY	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1358	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702888

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
	RIGHT, AXILLARY	MASS	TAN
Observation Comment: 25 X 18 X 17 mm Observation Comment: 34 X 18 X 15 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKELETAL MUSCLE	RIGHT, HINDLIMB	MASS	MOTTLED
Observation Comment: 82 X 50 X 30 mm; ulcerated and firm [MASS TGLS = TGL3]			
SPLEEN		ENLARGED	RED
Observation Comment: 65 X 17 X 6 mm [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1358	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702888

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 5-6, TGL 5-7			
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOMA	
	DUCT	DILATION	MILD
		FIBROADENOMA	
Tissue Comment: TGL 1-19, TGL 2-20			
[ADENOMA TGLS = TGL2-20, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL1-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
PITUITARY GLAND	PARS INTERMEDIA	HYPERPLASIA	MINIMAL
SKIN		FIBROMA	
[FIBROMA TGLS = TGL 3-18, Gross Finding = SKELETAL MUSCLE, RIGHT, HINDLIMB, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 4-8, Gross Finding = SPLEEN, ENLARGED, RED]			
THYROID GLAND	C-CELL	ADENOMA	

Animal Note: Pallor noted at necropsy, but not correlated with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1359	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702889

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG	LEFT	FOCUS	TWO, WHITE
Observation Comment: up to 3 X 2 mm [FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, AXILLARY RIGHT, ABDOMINAL	MASS MASS	TAN MOTTLED
Observation Comment: 10 X 9 X 5 mm Observation Comment: 60 X 40 X 13 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
PITUITARY GLAND		NODULE	RED
Observation Comment: 3 X 2 X 2 mm [NODULE TGLS = TGL6]			
UTERUS	LEFT RIGHT	NODULE NODULE	TAN TAN
Observation Comment: horn; 4 X 3 X 3 mm Observation Comment: horn; 4 X 4 X 3 mm [NODULE TGLS = TGL3] [NODULE TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1359	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702889

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
	BILE DUCT	CYST	
	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
[INFILTRATION CELLULAR TGLS = TGL 5-6, Gross Finding = LUNG, LEFT, FOCUS, TWO, WHITE]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-19, TGL 2-18			
[FIBROADENOMA TGLS = TGL2-18, TGL1-19, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-18, TGL1-19, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MINIMAL
[ADENOMA TGLS = TGL 6-11, Gross Finding = PITUITARY GLAND, NODULE, RED]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	
	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL
Tissue Comment: TGL 3-17, TGL 4-16			
[HYPERPLASIA TGLS = TGL4-16, TGL3-17, Gross Finding = UTERUS, LEFT, NODULE, TAN]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1359	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702889

| [HYPERPLASIA TGLS = TGL4-16, TGL3-17, Gross Finding = UTERUS, RIGHT, NODULE, TAN] | | | | |
| | | | | |

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1360	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD472
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702890

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LIVER	RIGHT	MASS	TAN
Observation Comment: posterior; 7 X 6 X 3 mm; found at trim [MASS TGLS = TGL4]			
MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
	RIGHT, AXILLARY	MASS	TAN
Observation Comment: 150 X 105 X 60 mm; ulcerated Observation Comment: 35 X 25 X 20 mm Observation Comment: 25 X 20 X 5 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2] [MASS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1360	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD472
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702890

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

LIVER		EXTRAMEDULLARY HEMATOPOIESIS NO CORRESPONDING LESION	INCREASED, MINIMAL
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = LIVER, RIGHT, MASS, TAN]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-19, TGL 2-20, TGL 3-18			
[FIBROADENOMA TGLS = TGL3-18, TGL1-19, TGL2-20, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
[FIBROADENOMA TGLS = TGL3-18, TGL1-19, TGL2-20, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Pallor and ruffled coat were seen at necropsy, but did not correlate with any specific gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1361	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702891

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NERVE, TRIGEMINAL	NOSE
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND		ENLARGED	
Observation Comment: 3 X expected size; unilateral; found at trim [ENLARGED TGLS = TGL4]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
Observation Comment: 55 X 45 X 20 mm [MASS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 5 X 3 X 3 mm [CYST TGLS = TGL2]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 4 X 4 X 2 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1361	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702891

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		DEGENERATION	CYSTIC, MODERATE
[DEGENERATION TGLS = TGL 4-11, Gross Finding = ADRENAL GLAND, ENLARGED,]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL

ANIMAL ID: 1362	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD479
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702892

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA

OBSERVATIONS

EYE	LEFT	DISCOLORATION	RED
[DISCOLORATION TGLS = TGL2]			
ZYMBALS GLAND	LEFT	MASS	YELLOW
Observation Comment: 32 X 28 X 19 mm; caseous; obliterates the ramus of the left mandible			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1362	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD479
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702892
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	URINARY BLADDER	UTERUS	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EYE	CORNEA	INFLAMMATION	CHRONIC, MILD	
[INFLAMMATION TGLS = TGL 2-13, Gross Finding = EYE, LEFT, DISCOLORATION, RED]				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MILD	
ZYMBALS GLAND		ADENOMA		
[ADENOMA TGLS = TGL 1-18, Gross Finding = ZYMBALS GLAND, LEFT, MASS, YELLOW]				
CONTRIBUTORY CAUSE OF DEATH	- ZYMBALS GLAND ADENOMA			

ANIMAL ID: 1363	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD343
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702893

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS			
MAMMARY GLAND	LEFT, AXILLARY	MASS	
	LEFT, INGUINAL	MASS	
Observation Comment: 30 X 30 X 10 mm			
Observation Comment: 80 X 60 X 30 mm; ulcerated			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1363	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD343
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702893
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
KIDNEY	LIVER	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS,]				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS,]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE				
Animal Note: Thinness and pallor were noted at necropsy, but not correlated with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1364	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702894

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: up to 2 X 1 mm; affects all lung lobes; found at trim [FOCUS TGLS = TGL3]			
LYMPH NODE, MANDIBULAR		ENLARGED	DARK
Observation Comment: 3 X expected size; found at trim [ENLARGED TGLS = TGL4]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 100 X 60 X 50 mm; contains thick, tan fluid [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		FOCUS	RED
Observation Comment: 1 X 1 mm [FOCUS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1364	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702894
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TRACHEA	URINARY BLADDER	
UTERUS	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND	THYMUS		
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
LYMPH NODE, MANDIBULAR		HEMANGIOSARCOMA		
[HEMANGIOSARCOMA TGLS = TGL 4-19, Gross Finding = LYMPH NODE, MANDIBULAR, ENLARGED, DARK]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	CYST		
	PARS DISTALIS	HYPERPLASIA	MINIMAL	
[CYST TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, FOCUS, RED]				
THYROID GLAND	C-CELL	ADENOMA		
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA				
Animal Note: Thinness confirmed at necropsy, but did not correlate with any necropsy finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1365	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD423
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702895

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, RIGHT	LARYNX	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		NODULE	WHITE
Observation Comment: 5 X 5 X 2 mm [NODULE TGLS = TGL2]			
LIVER	LOBE, MEDIAN	NODULE	RED
Observation Comment: 5 X 5 X 1 mm [NODULE TGLS = TGL3]			
LUNG	RIGHT RIGHT	MASS NODULE	CAUDAL, RED CAUDAL, WHITE
Observation Comment: 15 X 10 X 10 mm Observation Comment: 3 X 3 X 3 mm [MASS TGLS = TGL5] [NODULE TGLS = TGL6]			
LYMPH NODE, AXILLARY		ENLARGED	MOTTLED
Observation Comment: 6 X expected size [ENLARGED TGLS = TGL4]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	
Observation Comment: 70 X 65 X 35 mm; ulcerated [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1365	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD423
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702895
SPLEEN		ENLARGED		
Observation Comment: 59 X 12 X 8 mm; found at trim				
[ENLARGED TGLS = TGL7]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1365	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD423
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702895

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	[FIBROSARCOMA TGLS = TGL 2-19, Gross Finding = KIDNEY, LEFT, NODULE, WHITE]	FIBROSARCOMA	
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
	[HEPATODIAPHRAGMATIC NODULE TGLS = TGL 3-19, Gross Finding = LIVER, LOBE, MEDIAN, NODULE, RED]	HEPATODIAPHRAGMATIC NODULE	
LUNG		FIBROSARCOMA	METASTATIC
Tissue Comment: TGL 5-7, TGL 6-7			
Observation Comment: Primary fibrosarcoma is in kidney			
	[FIBROSARCOMA TGLS = TGL5-7, TGL6-7, Gross Finding = LUNG, RIGHT, MASS, CAUDAL, RED]		
	[FIBROSARCOMA TGLS = TGL5-7, TGL6-7, Gross Finding = LUNG, RIGHT, NODULE, CAUDAL, WHITE]		
LYMPH NODE, AXILLARY		INFILTRATION CELLULAR	HISTIOCYTE, MARKED
		NECROSIS	MODERATE
	[NECROSIS TGLS = TGL 4-18, Gross Finding = LYMPH NODE, AXILLARY, ENLARGED, MOTTLED]		
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
	[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS,]		
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
	[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 7-8, Gross Finding = SPLEEN, ENLARGED,]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1365	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD423
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702895
STOMACH, GLANDULAR			MINERAL	MINIMAL
UTERUS	ENDOMETRIUM		HYPERPLASIA	CYSTIC, MODERATE
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY FIBROSARCOMA			
Animal Note: Pallor and thinness were noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1366	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702896

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 10 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL3]		
OVARY, LEFT	CYST	CLEAR, TWO
Observation Comment: 3 mm diameter [CYST TGLS = TGL1]		
OVARY, RIGHT	CYST	CLEAR
Observation Comment: 2 mm diameter [CYST TGLS = TGL2]		
PITUITARY GLAND	NODULE	RED
Observation Comment: 3 X 3 X 3 mm [NODULE TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1366	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702896

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
	BILE DUCT	CYST	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
OVARY	FOLLICLES	CYST	
Tissue Comment: TGL 1-14, TGL 2-14			
[CYST TGLS = TGL1-14, TGL2-14, Gross Finding = OVARY, LEFT, CYST, CLEAR, TWO]			
[CYST TGLS = TGL1-14, TGL2-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, NODULE, RED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1367	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD514
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702897

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 4 X 2 mm; affects all lobes [FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	RED
Observation Comment: 10 X 7 X 4 mm [ENLARGED TGLS = TGL2]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1367	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD514
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702897

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Thinness and eye abnormality were noted at necropsy, but did not correlate with any specific necropsy findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1368	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD591
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702898

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, LEFT		CYST	CLEAR
Observation Comment: 6 X 4 X 2 mm [CYST TGLS = TGL2]			
MAMMARY GLAND	THORACIC	MASS	MOTTLED
Observation Comment: 125 X 87 X 35 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1368	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD591
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702898

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
	RENAL TUBULE	CYST	
[CYST TGLS = TGL 2-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]			
MAMMARY GLAND		ADENOMA	
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, THORACIC, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA

Animal Note: Thinness noted at necropsy, but not correlated with any gross finding.

ANIMAL ID: 1369	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702899

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes		
[FOCUS TGLS = TGL1]		

ANIMAL ID: 1369	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702899

HISTOPATH TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT
LYMPH NODE

OBSERVATIONS			
CLITORAL GLAND			
Tissue Comment: Only one clitoral gland in slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOMA	
		FIBROADENOMA	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1370	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702900

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

CLITORAL GLAND	LEFT	ENLARGED	
Observation Comment: 3 X expected size; found at trim [ENLARGED TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 10 X 7 X 5 mm [ENLARGED TGLS = TGL2]			
SKIN	LEFT, THORACIC	MASS	YELLOW
Observation Comment: 20 X 10 X 5 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1370	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702900

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND	DUCT	DILATION	MULTIPLE, MILD
[DILATION TGLS = TGL 3-15, Gross Finding = CLITORAL GLAND, LEFT, ENLARGED,]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = SKIN, LEFT, THORACIC, MASS, YELLOW]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MODERATE

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Ruffled coat seen at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1371	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702901

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, RIGHT	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 4 mm diameter			
[CYST TGLS = TGL1]			
PANCREAS		MASS	TAN
		NODULE	TAN
Tissue Comment: Greater than 5 masses or nodules present on pancreas, largest 5 were recorded.			
Observation Comment: 7 X 5 X 2 mm			
Observation Comment: 6 X 5 X 2 mm			
Observation Comment: 10 X 4 X 2 mm			
Observation Comment: 5 X 3 X 2 mm			
Observation Comment: 4 mm diameter			
[MASS TGLS = TGL6]			
[MASS TGLS = TGL5]			
[MASS TGLS = TGL3]			
[NODULE TGLS = TGL7]			
[NODULE TGLS = TGL4]			
UTERUS	LEFT	MASS	MOTTLED
Observation Comment: horn; 20 X 20 X 15 mm			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1371	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702901
[MASS TGLS = TGL2]				

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
MAMMARY GLAND	DUCT	DILATION	MILD
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PANCREAS		ADENOCARCINOMA	METASTATIC
Tissue Comment: TGL 3-18, TGL 4-18, TGL 5-18, TGL 6-18, TGL 7-18			
[ADENOCARCINOMA TGLS = TGL4-18, TGL3-18, TGL5-18, TGL7-18, TGL6-18, Gross Finding = PANCREAS, MASS, TAN]			
[ADENOCARCINOMA TGLS = TGL4-18, TGL3-18, TGL5-18, TGL7-18, TGL6-18, Gross Finding = PANCREAS, NODULE, TAN]			
UTERUS		ADENOCARCINOMA	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL
Tissue Comment: TGL 2-17, TGL 2-19			
[ADENOCARCINOMA TGLS = TGL2-17, Gross Finding = UTERUS, LEFT, MASS, MOTTLED]			

Animal Note: Red vaginal discharge was noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1372	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702902

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 4 X 3 mm; accessory [FOCUS TGLS = TGL1]			
PITUITARY GLAND		NODULE	RED
Observation Comment: 3 X 2 X 1 mm [NODULE TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1372	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702902

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, NODULE, RED]			
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1373	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702903

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	LEFT	FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 72 X 70 X 30 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	RIGHT	MASS	RED
Observation Comment: horn; 7 X 5 X 2 mm [MASS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1373	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702903

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
[INFILTRATION CELLULAR TGLS = TGL 2-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
OVARY			
Tissue Comment: Only one ovary in slide set			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
[HYPERPLASIA TGLS = TGL 3-17, Gross Finding = UTERUS, RIGHT, MASS, RED]			

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1374	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702904

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 3 X 1 mm [FOCUS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	BILATERAL	DILATION	RED
Observation Comment: horns; up to 12 mm diameter; blood-filled [DILATION TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1374	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702904

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE

Tissue Comment: TGL 1-16, TGL 1-17

[HYPERPLASIA TGLS = TGL1-16, Gross Finding = UTERUS, BILATERAL, DILATION, RED]

Animal Note: Kinked tail and pallor were seen at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1375	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702905

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

CLITORAL GLAND	LEFT	ENLARGED	
Observation Comment: 3 X expected size; found at trim [ENLARGED TGLS = TGL3]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 50 X 30 X 25 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		NODULE	RED
Observation Comment: 2 X 2 X 1 mm [NODULE TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1375	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702905

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND	INFLAMMATION	SUPPURATIVE, MILD
[INFLAMMATION TGLS = TGL 3-15, Gross Finding = CLITORAL GLAND, LEFT, ENLARGED,]		
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]		
PITUITARY GLAND	PARS DISTALIS	MILD
[HYPERPLASIA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, NODULE, RED]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1376	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702906

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1376	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702906
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
MAMMARY GLAND	DUCT	DILATION	MILD	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	

ANIMAL ID: 1377	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702907

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	RED
Observation Comment: 32 X 15 X 8 mm; blood-filled			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1377	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702907

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		FATTY CHANGE	FOCAL, MINIMAL
MAMMARY GLAND		ADENOCARCINOMA	
[ADENOCARCINOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, RED]			
STOMACH, FORESTOMACH		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1378	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702908

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

ADRENAL GLAND	LEFT	ENLARGED	RED
	RIGHT	SMALL	
Observation Comment: 15 x 11 X 5 mm			
Observation Comment: 0.25 X expected size			
[ENLARGED TGLS = TGL2]			
[SMALL TGLS = TGL1]			
KIDNEY, LEFT		DEFORMITY	TAN
Observation Comment: granular			
[DEFORMITY TGLS = TGL7]			
KIDNEY, RIGHT		DEFORMITY	TAN
Observation Comment: granular			
[DEFORMITY TGLS = TGL6]			
LIVER	LOBE, LEFT	CYST	CLEAR
	LOBE, MEDIAN	DEFORMITY	TAN
Observation Comment: 3 X 3 X 3 mm			
Observation Comment: 18 X 17 X 12 mm; consistent with HDN (hepatodiaphragmatic nodule)			
[CYST TGLS = TGL5]			
[DEFORMITY TGLS = TGL3]			
LUNG		FOCUS	WHITE

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1378	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702908
Observation Comment: multiple; up to 2 X 1 mm; affects all lung lobes [FOCUS TGLS = TGL4]				
NO CORRELATE		TO OBSERVATION / MASS		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1378	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702908

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	CLITORAL GLAND
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		CARCINOMA	
Tissue Comment: TGL 1-NCL, TGL 2-11			
[CARCINOMA TGLS = TGL2-11, Gross Finding = ADRENAL GLAND, LEFT, ENLARGED, RED]			
ADRENAL GLAND		NO CORRESPONDING LESION	
Tissue Comment: TGL 1-NCL, TGL 2-11			
[NO CORRESPONDING LESION TGLS = TGL1-NCL, Gross Finding = ADRENAL GLAND, RIGHT, SMALL,]			
BRAIN		GRANULAR CELL TUMOR	MALIGNANT
HEART		CARDIOMYOPATHY	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 6-8, TGL 7-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL6-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL7-8, TGL6-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]			
LIVER	BILE DUCT	CYST	
		HEPATODIAPHRAGMATIC NODULE	
Tissue Comment: TGL 3-18, TGL 5-12			
[CYST TGLS = TGL5-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]			
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL3-18, Gross Finding = LIVER, LOBE, MEDIAN, DEFORMITY, TAN]			
LUNG		CARCINOMA	METASTATIC
	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Observation Comment: primary carcinoma is in adrenal gland, cortex			
Tissue Comment: TGL 4-6, TGL 4-7			

ANIMAL ID: 1378	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702908
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT		DILATION	MILD
PITUITARY GLAND	PARS DISTALIS		HYPERPLASIA	MILD
THYROID GLAND	C-CELL		HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM		METAPLASIA	SQUAMOUS, MINIMAL
Animal Note: Alopecia (dorsal) was noted at necropsy, but did not correlate with any necropsy finding.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1379	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702909

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; accessory lobe; up to 8 X 3 mm [FOCUS TGLS = TGL4]			
MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 32 X 28 X 9 mm			
Observation Comment: 45 X 38 X 27 mm			
Observation Comment: 20 X 16 X 10 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1379	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702909

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[FIBROADENOMA TGLS = TGL2-19, TGL3-20, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-19, TGL3-20, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1380	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702910

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
	RIGHT	MASS	TAN
Observation Comment: 10 X 10 X 5 mm			
Observation Comment: perineum; 20 X 15 X 15 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 9 X 6 X 5 mm			
[ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1380	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702910
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS		
	BILE DUCT	HYPERPLASIA	MINIMAL	
MAMMARY GLAND		ADENOMA		
	DUCT	DILATION	MODERATE	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, MASS, TAN]				
OVARY		HYPERPLASIA	SERTOLIFORM, MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
STOMACH, GLANDULAR		MINERAL	MILD	

ANIMAL ID: 1381	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD372
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702911

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA			

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
ZYMBALS GLAND	LEFT, CERVICAL	MASS	MOTTLED
Observation Comment: 50 X 30 X 25 mm; ulcerated and filled with purulent material			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1381	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD372
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702911

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
		NECROSIS	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL
ZYMBALS GLAND		ADENOMA	

[ADENOMA TGLS = TGL 1-18, Gross Finding = ZYMBALS GLAND, LEFT, CERVICAL, MASS, MOTTLED]

CONTRIBUTORY CAUSE OF DEATH	- ZYMBALS GLAND ADENOMA

Animal Note: Ruffled coat and pallor were noted at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1382	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD451
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702912

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 2 X 2 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, INGUINAL	MASS	MOTTLED
Observation Comment: 95 X 85 X 32 mm; ulcerated; clitoral glands incorporated into this mass (TGL 1) [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1382	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD451
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702912
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
CLITORAL GLAND	LYMPH NODE			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		BASOPHILIC FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]				
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA				
Animal Note: Pallor was senn at necropsy, but did not correlate with any necropsy finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1383	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702913

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MILD

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1384	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702914

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	LOBE, LEFT RIGHT	FOCUS FOCUS	WHITE CAUDAL, WHITE
Observation Comment: 4 X 2 mm; found at trim			
Observation Comment: multiple; up to 2 X 2 mm; found at trim			
[FOCUS TGLS = TGL4]			
[FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, THORACIC RIGHT, THORACIC	MASS MASS	TAN TAN
Observation Comment: 55 X 40 X 11 mm			
Observation Comment: 9 X 8 X 4 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 9 X 5 X 2 mm			
[ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1384	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702914
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
THYMUS	TRACHEA	URINARY BLADDER	UTERUS	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, TGL5-7, Gross Finding = LUNG, LOBE, LEFT, FOCUS, WHITE]				
[INFILTRATION CELLULAR TGLS = TGL4-6, TGL5-7, Gross Finding = LUNG, RIGHT, FOCUS, CAUDAL, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
Tissue Comment: TGL 1-18, TGL 2-19				
[DILATION TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
[DILATION TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
SPLEEN	WHITE PULP	ATROPHY	MODERATE	
STOMACH, FORESTOMACH		MINERAL	MINIMAL	
STOMACH, GLANDULAR		MINERAL	MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1385	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702915

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG	LEFT	FOCUS	WHITE
Observation Comment: multiple; up to 8 X 3 mm [FOCUS TGLS = TGL3]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 22 X 18 X 10 mm [MASS TGLS = TGL2]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 3 mm diameter [CYST TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	TAN
Observation Comment: 5 X 4 X 3 mm [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1385	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702915

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
[INFILTRATION CELLULAR TGLS = TGL 3-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
MAMMARY GLAND		ADENOMA	
[ADENOMA TGLS = TGL 2-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1386	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD535
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702916

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL2]		
MAMMARY GLAND	MASS	MOTTLED
Observation Comment: 120 X 80 X 55 mm; perineum; ulcerated; obscures external genitalia and contains left clitoral gland [MASS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1386	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD535
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702916

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND			
Tissue Comment: Only one adrenal medulla with the slide set			
CLITORAL GLAND			
Tissue Comment: Only one clitoral gland with this slide set			
LIVER		CLEAR CELL FOCUS	
		NECROSIS	MILD
		INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
LUNG	ALVEOLUS		
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR		ULCER	MILD
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA

Animal Note: Pallor was noted at necropsy, but not correlated with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1387	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702917

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	RIGHT	MASS	MOTTLED
Observation Comment: posterior; 15 X 15 X 6 mm [MASS TGLS = TGL6]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 5 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, CERVICAL	MASS	MOTTLED
	LEFT, INGUINAL	MASS	TAN
	RIGHT, ABDOMINAL	MASS	TAN
	RIGHT, CERVICAL	NODULE	RED
Observation Comment: 8 X 7 X 4 mm			
Observation Comment: 30 X 9 X 5 mm			
Observation Comment: 45 X 34 X 10 mm			
Observation Comment: 5 X 4 X 3 mm			
[MASS TGLS = TGL4]			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
[NODULE TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1387	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702917
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS		
		HEPATOCELLULAR ADENOMA		
[HEPATOCELLULAR ADENOMA TGLS = TGL 6-21, Gross Finding = LIVER, RIGHT, MASS, MOTTLED]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 5-6, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MODERATE	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20, TGL 4-21				
[DILATION TGLS = TGL3-20, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
[DILATION TGLS = TGL3-20, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, CERVICAL, NODULE, RED]				
[FIBROADENOMA TGLS = TGL1-18, TGL4-21, Gross Finding = MAMMARY GLAND, LEFT, CERVICAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL1-18, TGL4-21, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
	PARS DISTALIS	HYPERPLASIA	MILD	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1388	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD567
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702918

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER		CYST	CLEAR
Observation Comment: anterior lobe; 3 mm diameter [CYST TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 3 mm; all lobes affected [FOCUS TGLS = TGL4]			
MAMMARY GLAND	ABDOMINAL	MASS	MOTTLED
Observation Comment: 115 X 85 X 60 mm; ulcerated [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		CYST	RED
Observation Comment: 2 mm diameter [CYST TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1388	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD567
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702918
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
LIVER	BILE DUCT	CYST		
[CYST TGLS = TGL 3-18, Gross Finding = LIVER, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 4-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
[HYPERPLASIA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, CYST, RED]				
SKIN		FIBROMA		
[FIBROMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, MOTTLED]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH	- SKIN FIBROMA			
Animal Note: Pallor, thinness, and ruffled coat were noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1389	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702919

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR, TWO
Observation Comment: up to 2 X 2 X 1 mm [CYST TGLS = TGL4]			
MAMMARY GLAND	LEFT	MASS	MOTTLED
	RIGHT, AXILLARY	MASS	MOTTLED
	RIGHT, AXILLARY	MASS	TAN
Observation Comment: perineum; 24 X 12 X 4 mm Observation Comment: 77 X 75 X 34 mm; ulcerated Observation Comment: 20 X 16 X 12 mm [MASS TGLS = TGL3] [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1389	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702919

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		LYMPHOMA	MALIGNANT
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
		LYMPHOMA	MALIGNANT
LIVER		BASOPHILIC FOCUS	
	BILE DUCT	CYST	
		FATTY CHANGE	FOCAL, MINIMAL
[CYST TGLS = TGL 4-20, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR, TWO]			
MAMMARY GLAND		ADENOMA	
		FIBROADENOMA	MULTIPLE
		LYMPHOMA	MALIGNANT
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-19			
[ADENOMA TGLS = TGL3-19, Gross Finding = MAMMARY GLAND, LEFT, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
OVARY		LYMPHOMA	MALIGNANT
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, FORESTOMACH		LYMPHOMA	MALIGNANT
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS		LYMPHOMA	MALIGNANT

Animal Note: Pallor and red nasal discharge were noted at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1390	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702920

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER		DEFORMITY	MOTTLED
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
LYMPH NODE, MEDIASTINAL		ENLARGED	TAN
Observation Comment: 3 X expected size [ENLARGED TGLS = TGL1]			
LYMPH NODE, MESENTERIC		ENLARGED	TAN
Observation Comment: 15 X expected size [ENLARGED TGLS = TGL5]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 30 X 28 X 18 mm [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		MASS	MOTTLED
Observation Comment: 65 X 25 X 20 mm; incorporates the left ovary [MASS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1390	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702920

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	NOSE	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	TRACHEA	VAGINA

AUTOLYSIS PRECLUDES EVALUATION

PANCREAS

NOT PRESENT

LYMPH NODE	URINARY BLADDER

OBSERVATIONS

ADRENAL MEDULLA	HYPERPLASIA	FOCAL, MILD
BONE MARROW	LYMPHOMA	MALIGNANT
BRAIN	HEMORRHAGE	MILD
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	LYMPHOMA	MALIGNANT
LIVER	LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 4-12, Gross Finding = LIVER, DEFORMITY, MOTTLED]		
LUNG	LYMPHOMA	MALIGNANT
LYMPH NODE, MANDIBULAR	LYMPHOMA	MALIGNANT
LYMPH NODE, MEDIASTINAL	LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 1-18, Gross Finding = LYMPH NODE, MEDIASTINAL, ENLARGED, TAN]		
LYMPH NODE, MESENTERIC	LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 5-20, Gross Finding = LYMPH NODE, MESENTERIC, ENLARGED, TAN]		
MAMMARY GLAND	FIBROADENOMA	
	LYMPHOMA	MALIGNANT
[FIBROADENOMA TGLS = TGL 2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]		
OVARY	LYMPHOMA	MALIGNANT
SPLEEN	LYMPHOMA	MALIGNANT
[LYMPHOMA TGLS = TGL 3-18, Gross Finding = SPLEEN, MASS, MOTTLED]		
STOMACH, FORESTOMACH	LYMPHOMA	MALIGNANT
STOMACH, GLANDULAR	LYMPHOMA	MALIGNANT
THYMUS	LYMPHOMA	MALIGNANT

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1390	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD584
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702920
THYROID GLAND	C-CELL		ADENOMA	
UTERUS			LYMPHOMA	MALIGNANT
UTERUS, CERVIX			LYMPHOMA	MALIGNANT
CONTRIBUTORY CAUSE OF DEATH	- SPLEEN LYMPHOMA	MALIGNANT		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1391	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD461
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702921

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 2 mm; affects all lung lobes			
[FOCUS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SKELETAL MUSCLE	RIGHT, MANDIBLE	MASS	TAN
Observation Comment: 24 X 16 X 12 mm; TGL 1 involves muscle surrounding right mandible and is centrally composed of purulent material.			
[MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1391	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD461
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702921
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
OVARY	PANCREAS	PITUITARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		FATTY CHANGE	FOCAL, MODERATE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
SALIVARY GLAND		ATROPHY	MODERATE	
SPLEEN	WHITE PULP	ATROPHY	MARKED	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
ZYMBALS GLAND		CARCINOMA		
[CARCINOMA TGLS = TGL 1-18, Gross Finding = SKELETAL MUSCLE, RIGHT, MANDIBLE, MASS, TAN]				
CONTRIBUTORY CAUSE OF DEATH - ZYMBALS GLAND CARCINOMA				
Animal Note: Pallor and thinness were noted at necropsy, but did not correlate with any necropsy finding.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1392	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD361
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702922

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, AXILLARY	MASS	DARK
Observation Comment: 16 X 11 X 8 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 5 X 4 X 3 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1392	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD361
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702922

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND			
Tissue Comment: Only one adrenal medulla in slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MODERATE
[DILATION TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, DARK]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
SPLEEN	WHITE PULP	ATROPHY	MODERATE
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Kinked tail was noted at necropsy, but was not correlated with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1393	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702923

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, INGUINAL	MASS	MOTTLED
Observation Comment: 75 X 75 X 40 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		NODULE	DARK
Observation Comment: 2 X 2 X 2 mm [NODULE TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1393	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702923

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, NODULE, DARK]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, FORESTOMACH		MINERAL	MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	ATYPICAL, MILD
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
		STROMAL POLYP	

Animal Note: Pallor was noted at necropsy, but did not correspond with any specific necropsy finding.

ANIMAL ID: 1394	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702924

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM	MASS	TAN
Observation Comment: 11 X 5 X 4 mm [MASS TGLS = TGL2]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1394	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702924

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM		ADENOCARCINOMA	
[ADENOCARCINOMA TGLS = TGL 2-18, Gross Finding = INTESTINE, SMALL, JEJUNUM, MASS, TAN]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any necropsy finding.

ANIMAL ID: 1395	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD405
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702925

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, AXILLARY	MASS	MOTTLED
Observation Comment: 40 X 35 x 10 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1395	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD405
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702925

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
MAMMARY GLAND		ADENOCARCINOMA	
	DUCT	DILATION	MILD
[ADENOCARCINOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND ADENOCARCINOMA

Animal Note: Kinked tail was noted at necropsy, but not correlated with any necropsy finding.

ANIMAL ID: 1396	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702926

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

ANIMAL ID: 1396	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702926

HISTOPATH TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS			
ADRENAL GLAND			
Tissue Comment: Only one adrenal gland in the slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		EOSINOPHILIC FOCUS	
MAMMARY GLAND	DUCT	DILATION	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Kinked tail was found at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1397	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702927

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	GREEN
	LEFT, THORACIC	MASS	MOTTLED
Observation Comment: 31 X 22 X 13 mm			
Observation Comment: 37 X 30 X 27 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1397	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702927

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND			
Tissue Comment: Only one adrenal medulla in slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND		ADENOMA	
	DUCT	DILATION	MILD
		FIBROADENOMA	
Tissue Comment: TGL 1-18, TGL 2-19			
[ADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, GREEN]			
[ADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, MOTTLED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Kinked tail was found at necropsy, but did not correspond with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1398	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702928

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

KIDNEY, RIGHT		CYST	
Observation Comment: 9 X 5 X 5 mm; found at trim [CYST TGLS = TGL2]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 90 X 75 X 40 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1398	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1702928

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND			
Tissue Comment: One adrenal gland was absent from slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	RENAL TUBULE	CYST	
[CYST TGLS = TGL 2-8, Gross Finding = KIDNEY, RIGHT, CYST,]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1399	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD505
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702929

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, DORSAL	MASS	MOTTLED
	RIGHT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 45 X 37 X 14 mm; ulcerated			
Observation Comment: 110 X 75 X 44 mm; ulcerated			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1399	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD505
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1702929
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, DORSAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, MOTTLED]				
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA MULTIPLE			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1400	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702930

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 85 X 65 X 60 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 9 X 5 X 5 mm [ENLARGED TGLS = TGL2]			

ANIMAL ID: 1400	TRT#: F1-3	DOSE: 100 mg/L	SEX: Female	REMOVAL DAY: SD617
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1702930
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Ruffled coat, kinked tail, and pallor were seen at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1401	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703001

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 5 X 5 mm; affects all lung lobes [FOCUS TGLS = TGL4]			
MAMMARY GLAND	RIGHT, CERVICAL RIGHT, THORACIC	MASS MASS	TAN MOTTLED
Observation Comment: 26 X 25 X 12 mm Observation Comment: 65 X 62 X 27 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 7 X 7 X 6 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1401	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703001

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND			
Tissue Comment: Only one adrenal medulla with slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MODERATE
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, CERVICAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MILD
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL

Animal Note: Damaged tail was confirmed at necropsy, but did not correlate with any gross finding.

ANIMAL ID: 1402	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD232
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703002

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
Observation Comment: 57 X 50 X 30 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1402	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD232
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703002
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
LIVER		FATTY CHANGE	FOCAL, MINIMAL	
SKIN		FIBROSARCOMA		
		HYPERKERATOSIS	MINIMAL	
[FIBROSARCOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MARKED	
CONTRIBUTORY CAUSE OF DEATH - SKIN FIBROSARCOMA				
Animal Note: Pallor and ruffled coat were noted at necropsy, but did not correlate with any gross lesions.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1403	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD444
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703003

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 110 X 75 X 35 mm; ulcerated; accounts for both masses noted clinically [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 7 X 4 X 3 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1403	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD444
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703003

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
OVARY		CYST	PARAOVARIAN
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-19, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Thinness and pallor were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1404	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703004

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA	ZYMBALS GLAND

OBSERVATIONS

CERVIX		MASS	WHITE
Observation Comment: 10 X 9 X 4 mm [MASS TGLS = TGL2]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 6 X 5 X 2 mm [CYST TGLS = TGL4]			
LUNG	LEFT	FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm [FOCUS TGLS = TGL5]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 30 X 25 X 11 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 7 X 6 X 2 mm [ENLARGED TGLS = TGL6]			
UTERUS	RIGHT	MASS	TAN
Observation Comment: horn; 6 X 6 x 3 mm [MASS TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1404	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703004

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
CLITORAL GLAND			
Tissue Comment: Only one clitoral gland in slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	CYST	
[CYST TGLS = TGL 4-19, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
[INFILTRATION CELLULAR TGLS = TGL 5-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
		INFLAMMATION	SUPPURATIVE, MILD
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 6-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS		ADENOCARCINOMA	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE
		STROMAL POLYP	
[STROMAL POLYP TGLS = TGL 3-17, Gross Finding = UTERUS, RIGHT, MASS, TAN]			
UTERUS, CERVIX	SQUAMOUS EPITHELIUM	HYPERPLASIA	MARKED
[HYPERPLASIA TGLS = TGL 2-16, Gross Finding = CERVIX, MASS, WHITE]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1404	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703004
CONTRIBUTORY CAUSE OF DEATH - UTERUS ADENOCARCINOMA				
Animal Note: Hunched posture and ruffled coat were seen at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1405	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703005

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
MAMMARY GLAND	BILATERAL, INGUINAL	MASS	MOTTLED
	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 110 X 100 X 22 mm			
Observation Comment: 43 X 42 X 11 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1405	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703005
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
CLITORAL GLAND				
Tissue Comment: Only one clitoral gland in slide set				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
Tissue Comment: TGL 3-8, TGL 4-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER		NECROSIS	MINIMAL	
LUNG	EPITHELIUM, ALVEOLAR/BRONCHIOLAR	HYPERPLASIA	MILD	
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, BILATERAL, INGUINAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA MULTIPLE			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1406	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703006

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 5 X 2 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 40 X 20 X 15 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 9 X 8 X 4 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1406	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703006

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1407	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703007

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1407	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703007

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
MAMMARY GLAND	DUCT	DILATION	MINIMAL
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE
STOMACH, FORESTOMACH		MINERAL	MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

ANIMAL ID: 1408	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703008

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
Observation Comment: 60 X 50 X 20 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1408	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703008

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
MAMMARY GLAND	DUCT	DILATION	MODERATE
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

ANIMAL ID: 1409	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD464
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703009

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	DISCOLORATION	MOTTLED
Observation Comment: Affects all lobes; emphysematous bullae visible [DISCOLORATION TGLS = TGL2]		
SPLEEN	ENLARGED	
Observation Comment: 65 X 16 X 8 mm [ENLARGED TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1409	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD464
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703009
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS	UTERUS, CERVIX	VAGINA		
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		LYMPHOMA	MALIGNANT	
LUNG		LYMPHOMA	MALIGNANT	
Tissue Comment: TGL 2-6, TGL 2-7				
[LYMPHOMA TGLS = TGL2-6, Gross Finding = LUNG, DISCOLORATION, MOTTLED]				
LYMPH NODE, MANDIBULAR		LYMPHOMA	MALIGNANT	
LYMPH NODE, MESENTERIC		LYMPHOMA	MALIGNANT	
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
SPLEEN		LYMPHOMA	MALIGNANT	
[LYMPHOMA TGLS = TGL 1-8, Gross Finding = SPLEEN, ENLARGED,]				
STOMACH, FORESTOMACH		LYMPHOMA	MALIGNANT	
CONTRIBUTORY CAUSE OF DEATH	- SPLEEN LYMPHOMA MALIGNANT			

ANIMAL ID: 1410	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703010

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	RIGHT	MASS	TAN
Observation Comment: horn; 12 X 7 X 5 mm			
[MASS TGLS = TGL1]			

ANIMAL ID: 1410	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703010

HISTOPATH TISSUE STATUS

Within Normal Limits			
AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	SPLEEN	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS			
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		BASOPHILIC FOCUS	
		CLEAR CELL FOCUS	MULTIPLE
STOMACH, FORESTOMACH		MINERAL	MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
UTERUS		STROMAL POLYP	
[STROMAL POLYP TGLS = TGL 1-17, Gross Finding = UTERUS, RIGHT, MASS, TAN]			

ANIMAL ID: 1411	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703011

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

OVARY, LEFT	CYST	CLEAR
Observation Comment: 6 mm diameter		
[CYST TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1411	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703011

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	BILE DUCT	CYST	
MAMMARY GLAND	DUCT	DILATION	MILD
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PARATHYROID GLAND		ADENOMA	
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
	PARS DISTALIS	HYPERPLASIA	MINIMAL
STOMACH, FORESTOMACH		MINERAL	MINIMAL
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

ANIMAL ID: 1412	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703012

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LIVER	RIGHT	CYST	CLEAR
Observation Comment: posterior; 4 X 5 X 2 mm			
[CYST TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1412	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703012

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, GLANDULAR	THYMUS
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	BILE DUCT	CYST	
[CYST TGLS = TGL 1-18, Gross Finding = LIVER, RIGHT, CYST, CLEAR]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
STOMACH, FORESTOMACH		MINERAL	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1413	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD543
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703013

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	LOBE, LEFT	FOCUS	WHITE
Observation Comment: multiple; up to 1 X 1 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 95 X 65 X 25 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 5 X 5 X 3 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1413	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD543
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703013
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE	LYMPH NODE, MANDIBULAR			
OBSERVATIONS				
CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LOBE, LEFT, FOCUS, WHITE]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
THYROID GLAND	C-CELL	ADENOMA		
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA	MULTIPLE		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1414	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD577
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703014

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	LOBE, LEFT	MASS	TAN
	LOBE, MEDIAN	MASS	
Observation Comment: 6 X 6 X 4 mm			
Observation Comment: 35 X 23 X 13 mm; found at trim			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL6]			
LUNG		DISCOLORATION	MOTTLED
Observation Comment: all lobes			
[DISCOLORATION TGLS = TGL1]			
MAMMARY GLAND	INGUINAL	MASS	MOTTLED
	THORACIC	MASS	MOTTLED
Observation Comment: 117 X 72 X 18 mm; involved with left clitoral gland			
Observation Comment: 128 X 86 X 34 mm			
[MASS TGLS = TGL5]			
[MASS TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	DARK
Observation Comment: 58 X 16 X 8 mm			
[ENLARGED TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1414	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD577
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703014
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	URINARY BLADDER	UTERUS	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CHOLANGIOMA		
		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
		HEPATODIAPHRAGMATIC NODULE		
Tissue Comment: TGL 3-18, TGL 6-12				
[CHOLANGIOMA TGLS = TGL3-18, Gross Finding = LIVER, LOBE, LEFT, MASS, TAN]				
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL6-12, Gross Finding = LIVER, LOBE, MEDIAN, MASS,]				
LUNG		HEMORRHAGE	MILD	
Tissue Comment: TGL 1-6, TGL 1-7				
[HEMORRHAGE TGLS = TGL1-6, Gross Finding = LUNG, DISCOLORATION, MOTTLED]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 4-19, TGL 5-20				
[FIBROADENOMA TGLS = TGL5-20, TGL4-19, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL5-20, TGL4-19, Gross Finding = MAMMARY GLAND, THORACIC, MASS, MOTTLED]				
OVARY	FOLLICLES	CYST		
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 2-8, Gross Finding = SPLEEN, ENLARGED, DARK]				
THYROID GLAND	C-CELL, BILATERAL	HYPERPLASIA	MODERATE	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA MULTIPLE			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1414

TRT#: F1-4

DOSE: 300 mg/L

SEX: Female

REMOVAL DAY: SD577

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1703014

Animal Note: Kinked tail, pallor, and thinness were noted at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1415	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD476
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703015

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT	CYST	CLEAR, FOUR
Observation Comment: up to 2 mm diameter [CYST TGLS = TGL1]		
KIDNEY, RIGHT	CYST	CLEAR
Observation Comment: multiple; up to 3 mm diameter [CYST TGLS = TGL2]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 6 X 4 mm; affects all lung lobes [FOCUS TGLS = TGL3]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	MOTTLED
Observation Comment: 11 X 6 X 4 mm [ENLARGED TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1415	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD476
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703015

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PARATHYROID GLAND	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND

Tissue Comment: Only one adrenal medulla in slide set

KIDNEY

CHRONIC PROGRESSIVE NEPHROPATHY MILD

Tissue Comment: TGL 1-8, TGL 2-8

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR, FOUR]

[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]

LUNG

ALVEOLUS

INFILTRATION CELLULAR HISTIOCYTE, MILD

Tissue Comment: TGL 3-6, TGL 3-7

[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]

MAMMARY GLAND

DUCT

DILATION MILD

PANCREAS

ACINUS

ATROPHY MINIMAL

PITUITARY GLAND

PARS DISTALIS

ADENOMA

[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]

SPLEEN

HEMANGIOMA

STOMACH, GLANDULAR

MINERAL MINIMAL

THYROID GLAND

C-CELL

ADENOMA

UTERUS

ENDOMETRIUM

HYPERPLASIA CYSTIC, MILD

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Ruffled coat, red nasal discharge, pallor, and thinness were noted at necropsy, but did not correlate with any specific gross finding.

ANIMAL ID: 1416	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703016

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 6 X 2 mm; affects all lobes except right cranial [FOCUS TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1416	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703016
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		PHEOCHROMOCYTOMA	BENIGN	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1417	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703017

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

ADRENAL GLAND	BILATERAL	SMALL	
Observation Comment: 0. 5x expected size [SMALL TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 10 X 8 X 6 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1417	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703017

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HEMORRHAGE	MILD
[HEMORRHAGE TGLS = TGL 1-11, Gross Finding = ADRENAL GLAND, BILATERAL, SMALL,]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
THYROID GLAND	C-CELL	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Shut eyes and ruffled coat were confirmed at necropsy, but did not correlate with any specific gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1418	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703018

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: up to 3 X 1 mm; affects all lung lobes [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 35 X 30 X 15 mm [MASS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 11 X 11 X 10 mm [CYST TGLS = TGL3]			
UTERUS	BILATERAL	DILATION	DARK
Observation Comment: horns; up to 12 mm diameter; dark red, consistent with blood filled [DILATION TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1418	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703018

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYMUS
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MODERATE
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 3-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	
UTERUS		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = UTERUS, BILATERAL, DILATION, DARK]			

ANIMAL ID: 1419	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD220
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703019
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE	
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN	
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TONGUE	TRACHEA	
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA	
ZYMBALS GLAND				
OBSERVATIONS				
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN	
Observation Comment: 100 X 70 X 40 mm; ulcerated				
[MASS TGLS = TGL1]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1419	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD220
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703019
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PITUITARY GLAND	
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
CLITORAL GLAND	LYMPH NODE	PARATHYROID GLAND		
OBSERVATIONS				
MAMMARY GLAND	FIBROADENOMA			
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]				
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS		INCREASED, MILD	
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1420	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD272
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703020
GROSS PATHOLOGY TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN	
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS	
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS	
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE	
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	
VAGINA	ZYMBALS GLAND			
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
SPLEEN	WHITE PULP	ATROPHY	MODERATE	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

ANIMAL ID: 1421	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD325
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703021

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	RIGHT, AXILLARY	MASS	MOTTLED
Observation Comment: 90 X 85 X 80 mm; ulcerated			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1421	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD325
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703021

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

MAMMARY GLAND	FIBROADENOMA
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]	
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS
THYROID GLAND	C-CELL
	HYPERPLASIA
	INCREASED, MILD
	MILD

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA

Animal Note: Pallor, ruffled coat, and thinness were seen at necropsy, but not correlated with any specific necropsy findings.

ANIMAL ID: 1422	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD517
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703022

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	RIGHT, INGUINAL	MASS	MOTTLED
Observation Comment: 108 X 85 X 40 mm			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1422	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD517
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703022

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX	HYPERPLASIA	FOCAL, MILD
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]		

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA

Animal Note: Thinness, ruffled coat, ocular and nasal discharges, and pallor seen at necropsy, but not correlated with any specific gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1423	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703023

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, CERVICAL	MASS	TAN
Observation Comment: 25 X 20 X 20 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		NODULE	WHITE
Observation Comment: 3 X 2 X 1 mm [NODULE TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1423	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703023

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
	LOBULOALVEOLAR	HYPERPLASIA	MILD
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, CERVICAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, NODULE, WHITE]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1424	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD325
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703024

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LIVER	LOBE, MEDIAN	FOCUS	TAN
Observation Comment: 15 X 3 mm [FOCUS TGLS = TGL4]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
	RIGHT, ABDOMINAL	MASS	TAN
	RIGHT, AXILLARY	MASS	MOTTLED
Observation Comment: 40 X 30 X 10 mm Observation Comment: 40 X 40 X 15 mm Observation Comment: 110 X 80 X 40 mm; ulcerated [MASS TGLS = TGL2] [MASS TGLS = TGL3] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1424	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD325
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703024

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	SALIVARY GLAND
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND	PITUITARY GLAND	URINARY BLADDER

OBSERVATIONS

ADRENAL GLAND		
Tissue Comment: Only one adrenal cortex and no adrenal medulla tissue in slide set		
LIVER	NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = LIVER, LOBE, MEDIAN, FOCUS, TAN]		
MAMMARY GLAND	FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20		
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]		
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]		
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Pallor, thinness, ruffled coat, and red nasal discharge noted at necropsy, but not correlated with any gross lesions.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1425	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703025

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
Observation Comment: 165 X 120 X 55 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 3 X 3 X 3 mm [CYST TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1425	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD518
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703025
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
CLITORAL GLAND	LYMPH NODE			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]				
OVARY		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 2-NCL, Gross Finding = OVARY, RIGHT, CYST, CLEAR]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA				
Animal Note: Thinness and ruffled coat were found at necropsy, but not correlated with any specific necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1426	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703026

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	MOTTLED

Observation Comment: 40 X 35 X 10 mm

Observation Comment: 20 X 20 X 18 mm; found at trim

Observation Comment: 70 X 50 X 10 mm

[MASS TGLS = TGL1]

[MASS TGLS = TGL3]

[MASS TGLS = TGL2]

NO CORRELATE

TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1426	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703026

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
LIVER		CLEAR CELL FOCUS	
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1427	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703027

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT	FOCUS	WHITE
Observation Comment: multiple; largest 7 X 6 mm; found at trim [FOCUS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	BILATERAL	DILATION	DARK
Observation Comment: horns; up to 12 mm diameter; blood-filled [DILATION TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1427	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703027

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		ANGIECTASIS	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
[INFILTRATION CELLULAR TGLS = TGL 2-6, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL, BILATERAL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE
		PAPILLOMA	SQUAMOUS

Tissue Comment: TGL 1-16, TGL 1-17

[HYPERPLASIA TGLS = TGL1-16, Gross Finding = UTERUS, BILATERAL, DILATION, DARK]

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1428	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703028

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 11 X 10 mm; affects all lung lobes [FOCUS TGLS = TGL2]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 10 X 10 X 10 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 5 X 4 X 3 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1428	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703028

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
OVARY	FOLLICLES	CYST	
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE

Animal Note: Kinked tail seen at necropsy, but not correlated with any necropsy finding

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1429	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD486
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703029

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

AORTA	BONE, FEMUR	BRAIN	CARCASS
CERVIX	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

ADRENAL GLAND	RIGHT	MASS	TAN
Observation Comment: 7 X 6 X 5 mm [MASS TGLS = TGL2]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 2 mm; affects all lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	PALE
Observation Comment: 135 X 110 X 80 mm; ulcerated [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1429	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD486
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703029

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MODERATE
[HYPERPLASIA TGLS = TGL 2-11, Gross Finding = ADRENAL GLAND, RIGHT, MASS, TAN]			
CLITORAL GLAND			
Tissue Comment: Only one clitoral gland in slide set			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOCARCINOMA	
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, PALE]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
THYROID GLAND	FOLLICULAR CELL, BILATERAL	HYPERTROPHY	MINIMAL

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA

Animal Note: Kinked tail, pallor, and thinness were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1430	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703030

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	RIGHT	MASS	TAN
	LOBE, LEFT	NODULE	RED
Observation Comment: posterior; 10 X 5 X 5 mm			
Observation Comment: 5 X 5 X 3 mm			
[MASS TGLS = TGL4]			
[NODULE TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 1 mm; affects all lung lobes			
[FOCUS TGLS = TGL5]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
	RIGHT, AXILLARY	MASS	TAN
Observation Comment: 35 X 35 X 10 mm			
Observation Comment: 45 X 30 X 15 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1430	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703030

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
		HEPATOCELLULAR ADENOMA	MULTIPLE
Tissue Comment: TGL 3-12, TGL 4-20			
[HEPATOCELLULAR ADENOMA TGLS = TGL4-20, TGL3-12, Gross Finding = LIVER, LOBE, LEFT, NODULE, RED]			
[HEPATOCELLULAR ADENOMA TGLS = TGL4-20, TGL3-12, Gross Finding = LIVER, RIGHT, MASS, TAN]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 5-6, TGL 5-7			
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL, BILATERAL	ADENOMA	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any gross finding.

ANIMAL ID: 1431	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD119
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703031

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

ANIMAL ID: 1431	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD119
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703031
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		NECROSIS	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Kinked tail confirmed at necropsy, but did not correlate with any necropsy finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1432	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703032

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 1 X 1 mm; all lobes affected [FOCUS TGLS = TGL4]			
MAMMARY GLAND	RIGHT, AXILLARY	MASS	TAN
	RIGHT, THORACIC	MASS	TAN
Observation Comment: 8 X 6 X 4 mm Observation Comment: 25 X 15 X 12 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 10 X 8 X 6 mm [ENLARGED TGLS = TGL5]			
THYMUS		MASS	TAN
Observation Comment: 15 X 8 X 8 mm [MASS TGLS = TGL3]			
THYROID GLAND	LEFT	ENLARGED	TAN
	RIGHT	ENLARGED	TAN
Observation Comment: 3 X expected size; found at trim			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1432

TRT#: F1-4

DOSE: 300 mg/L

SEX: Female

REMOVAL DAY: SD556

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Euthanized Moribund

HISTO: 1703032

Observation Comment: 2 X expected size; found at trim

[ENLARGED TGLS = TGL6]

[ENLARGED TGLS = TGL7]

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1432	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD556
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703032
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 4-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MARKED	
		FIBROADENOMA		
Tissue Comment: TGL 1-18, TGL 2-19				
[DILATION TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]				
[FIBROADENOMA TGLS = TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
THYMUS		LYMPHOMA	MALIGNANT	
[LYMPHOMA TGLS = TGL 3-6, Gross Finding = THYMUS, MASS, TAN]				
THYROID GLAND	FOLLICULAR CELL, BILATERAL	HYPERTROPHY	MILD	
Tissue Comment: TGL 6-11, TGL 7-11				
[HYPERTROPHY TGLS = TGL6-11, TGL7-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED, TAN]				
[HYPERTROPHY TGLS = TGL6-11, TGL7-11, Gross Finding = THYROID GLAND, RIGHT, ENLARGED, TAN]				
CONTRIBUTORY CAUSE OF DEATH				
- PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Ruffled coat and kinked tail were noted at necropsy, but did not correlate with any specific gross findings.				

ANIMAL ID: 1433	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD636
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703033

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

MAMMARY GLAND	VENTRAL	MASS	TAN
Observation Comment: neck; 40 X 35 X 15 mm [MASS TGLS = TGL1]			
OVARY, LEFT		CYST	RED
Observation Comment: multiple; up to 2 X 2 X 2 mm [CYST TGLS = TGL3]			
OVARY, RIGHT		CYST	RED
Observation Comment: multiple; up to 2 X 2 X 2 mm [CYST TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1433	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD636
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703033
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	
SKIN	STOMACH, GLANDULAR	THYMUS	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	INTERSTITIUM	INFLAMMATION	CHRONIC, MINIMAL	
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, VENTRAL, MASS, TAN]				
OVARY		NO CORRESPONDING LESION		
Tissue Comment: TGL 2-NCL, TGL 3-NCL				
[NO CORRESPONDING LESION TGLS = TGL3-NCL, Gross Finding = OVARY, LEFT, CYST, RED]				
[NO CORRESPONDING LESION TGLS = TGL2-NCL, Gross Finding = OVARY, RIGHT, CYST, RED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
STOMACH, FORESTOMACH		HYPERKERATOSIS	MILD	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1434	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703034

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

CERVIX	MASS	TAN
Observation Comment: 15 X 15 X 5 mm; ulcerated [MASS TGLS = TGL2]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects all lobes [FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1434	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD546
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703034

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
UTERUS, CERVIX		ULCER	MARKED
[ULCER TGLS = TGL 2-18, Gross Finding = CERVIX, MASS, TAN]			

CONTRIBUTORY CAUSE OF DEATH - UTERUS, CERVIX ULCER

Animal Note: Kinked tail confirmed at necropsy, but not correlated with any gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1435	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703035

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	MOTTLED
	LEFT, THORACIC	MASS	TAN
Observation Comment: 84 X 73 X 30 mm			
Observation Comment: 80 X 55 X 40 mm			
Observation Comment: 50 X 38 X 22 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 9 X 6 X 5 mm			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1435	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703035

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	RENAL TUBULE	NECROSIS	MILD
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, MOTTLED]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

Animal Note: Kinked tail was found at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1436	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703036

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

EYE	RIGHT	DISCOLORATION	OPAQUE
[DISCOLORATION TGLS = TGL4]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lobes			
[FOCUS TGLS = TGL7]			
MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
	RIGHT, AXILLARY	MASS	TAN
	VENTRAL, CERVICAL	MASS	RED
Observation Comment: 30 X 20 X 12 mm			
Observation Comment: 33 X 27 X 10 mm			
Observation Comment: 20 X 16 X 11 mm			
Observation Comment: 7 X 7 X 5 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 5 X 5 X 5 mm			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1436	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703036
[CYST TGLS = TGL6]				

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

EYE	NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = EYE, RIGHT, DISCOLORATION, OPAQUE]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD
Tissue Comment: TGL 7-6, TGL 7-7			
[INFILTRATION CELLULAR TGLS = TGL7-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOMA	
	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20, TGL 5-21			
[ADENOMA TGLS = TGL5-21, Gross Finding = MAMMARY GLAND, VENTRAL, CERVICAL, MASS, RED]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, TGL3-20, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, TGL3-20, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 6-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
STOMACH, FORESTOMACH		MINERAL	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE
UTERUS		ADENOCARCINOMA	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1436

TRT#: F1-4

DOSE: 300 mg/L

SEX: Female

REMOVAL DAY: SD638

GENERATION: F1

SELECTION: F1 Core Animals

DISP: Scheduled Removal (Terminal)

HISTO: 1703036

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any specific gross finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1437	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD436
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703037

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, MEDIAN	DEFORMITY	
Observation Comment: 5 X 5 X 3 mm; consistent with hepatodiaphragmatic nodule (HDN)			
[DEFORMITY TGLS = TGL5]			
MAMMARY GLAND	LEFT, THORACIC	MASS	WHITE
	RIGHT, CERVICAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 28 X 25 X 5 mm			
Observation Comment: 92 X 90 X 30 mm			
Observation Comment: 60 X 55 X 40 mm; ulcerated			
[MASS TGLS = TGL3]			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	
Observation Comment: 50 X 13 X 5 mm			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1437	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD436
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703037

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND		
Tissue Comment: No adrenal medulla tissue in slide set		
LIVER	HEPATODIAPHRAGMATIC NODULE	
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL 5-21, Gross Finding = LIVER, LOBE, MEDIAN, DEFORMITY,]		
MAMMARY GLAND	FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20		
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, WHITE]		
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, CERVICAL, MASS, MOTTLED]		
[FIBROADENOMA TGLS = TGL3-20, TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 4-8, Gross Finding = SPLEEN, ENLARGED,]		
STOMACH, GLANDULAR	MINERAL	MINIMAL

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Kinked tail, pallor, thinness, and ruffled coat were noted at necropsy, but did not correlate with any gross findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1438	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD605
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703038

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 80 X 50 X 24 mm			
Observation Comment: 70 X 55 X 28 mm; ulcerated			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	PALE
Observation Comment: 54 X 13 X 9 mm			
[ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1438	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD605
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703038

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

MAMMARY GLAND	FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19		
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]		
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]		
PITUITARY GLAND	PARS DISTALIS	MINIMAL
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 3-8, Gross Finding = SPLEEN, ENLARGED, PALE]		
STOMACH, GLANDULAR	MINERAL	MILD

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Kinked tail and pallor were noted at necropsy, but did not correlate with any necropsy findings.

ANIMAL ID: 1439	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703039

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	ABDOMINAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	TAN
Observation Comment: 95 X 70 X 20 mm; clitoral glands and a portion of the vagina are incorporated into TGL 1			
Observation Comment: 40 X 30 X 10 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1439	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703039
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	

ANIMAL ID: 1440	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703040

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1440	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703040

HISTOPATH TISSUE STATUS

Within Normal Limits

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	
	BILE DUCT	HYPERPLASIA	MINIMAL
		MIXED CELL FOCUS	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

Animal Note: Kinked tail was confirmed at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1441	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703041

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, RIGHT	LARYNX	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT	PELVIS	DILATION	
Observation Comment: 15 X 4 mm [DILATION TGLS = TGL7]			
LIVER	CAUDATE LOBE	MASS	TAN
Observation Comment: 10 X 10 X 6 mm; found at trim [MASS TGLS = TGL8]			
PANCREAS		MASS NODULE NODULE	TAN TAN TAN, TWO
Tissue Comment: Greater than 5 masses or nodules present in pancreas, largest 5 recorded Observation Comment: 7 X 7 X 4 mm Observation Comment: 7 X 5 X 3 mm Observation Comment: 5 X 5 X 3 mm Observation Comment: 4 X 3 X 3 mm [MASS TGLS = TGL3] [MASS TGLS = TGL4] [NODULE TGLS = TGL5] [NODULE TGLS = TGL6]			
UTERUS	LEFT	MASS	MOTTLED

ANIMAL ID: 1441	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703041
RIGHTMASSMOTTLED				
Observation Comment: horn; 20 X 15 X 13 mm; adhered to the jejunum and liver, caudate lobes				
Observation Comment: horn; 29 X 23 X 21 mm				
[MASS TGLS = TGL2]				
[MASS TGLS = TGL1]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1441	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703041

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NOSE	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE	OVARY

OBSERVATIONS

AORTA		MINERAL	MILD
HEART		CARDIOMYOPATHY	MINIMAL
		MINERAL	MODERATE
INTESTINE, LARGE, CECUM		MINERAL	MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	PELVIS	DILATION	MILD
[DILATION TGLS = TGL 7-8, Gross Finding = KIDNEY, LEFT, PELVIS, DILATION,]			
LIVER		ADENOCARCINOMA	METASTATIC
Observation Comment: Primary adenocarcinoma is in pancreas, acinus			
[ADENOCARCINOMA TGLS = TGL 8-20, Gross Finding = LIVER, CAUDATE LOBE, MASS, TAN]			
PANCREAS		ADENOCARCINOMA	
Tissue Comment: TGL 3-18, TGL 4-19, TGL 5-18, TGL 6-19			
[ADENOCARCINOMA TGLS = TGL3-18, TGL5-18, TGL4-19, TGL6-19, Gross Finding = PANCREAS, MASS, TAN]			
[ADENOCARCINOMA TGLS = TGL3-18, TGL5-18, TGL4-19, TGL6-19, Gross Finding = PANCREAS, NODULE, TAN]			
[ADENOCARCINOMA TGLS = TGL3-18, TGL5-18, TGL4-19, TGL6-19, Gross Finding = PANCREAS, NODULE, TAN, TWO]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS		ADENOCARCINOMA	METASTATIC
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE
Tissue Comment: TGL 1-22, TGL 2-21			
Observation Comment: primary adenocarcinoma is in pancreas, acinus			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1441	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD533
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703041
[ADENOCARCINOMA TGLS = TGL1-22, TGL2-21, Gross Finding = UTERUS, LEFT, MASS, MOTTLED]				
[ADENOCARCINOMA TGLS = TGL1-22, TGL2-21, Gross Finding = UTERUS, RIGHT, MASS, MOTTLED]				
CONTRIBUTORY CAUSE OF DEATH - PANCREAS ADENOCARCINOMA				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1442	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703042

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects right caudal and left lung lobes [FOCUS TGLS = TGL6]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
	RIGHT, INGUINAL	MASS	TAN
Observation Comment: 20 X 20 X 10 mm Observation Comment: 37 X 18 X 8 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 3 X 3 X 2 mm [CYST TGLS = TGL5]			
UTERUS	LEFT	MASS	TAN
	RIGHT	NODULE	TAN
Observation Comment: horn; 17 X 6 X 4 mm Observation Comment: horn; 4 X 3 X 3 mm [MASS TGLS = TGL3] [NODULE TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1442	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703042

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG		NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 6-NCL, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 5-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
	FOLLICULAR CELL	HYPERTROPHY	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE
Tissue Comment: TGL 3-17, TGL 4-17			
[HYPERPLASIA TGLS = TGL3-17, TGL4-17, Gross Finding = UTERUS, LEFT, MASS, TAN]			
[HYPERPLASIA TGLS = TGL3-17, TGL4-17, Gross Finding = UTERUS, RIGHT, NODULE, TAN]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1443	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703043

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
Observation Comment: 85 X 62 X 40 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 4 mm diameter [CYST TGLS = TGL2]			

ANIMAL ID: 1443	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703043

HISTOPATH TISSUE STATUS

Within Normal Limits			
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT
LYMPH NODE

OBSERVATIONS		
CLITORAL GLAND		
Tissue Comment: Only one clitoral gland in slide set		
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]		
OVARY	FOLLICLES	CYST
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR	MINERAL	MILD

Animal Note: Pallor and red nasal discharge were noted at necropsy, but did not correlate with any gross findings.

ANIMAL ID: 1444	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD557
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703044

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
	RIGHT, THORACIC	MASS	WHITE
Observation Comment: 30 X 20 X 15 mm; partially cannibalized			
Observation Comment: 45 X 40 X 25 mm; partly cannibalized			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1444	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD557
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703044

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

PRIMARY CAUSE OF DEATH	- UNDETERMINED

Animal Note: Kinked tail and partial cannibalization were noted at necropsy, but not correlated with specific gross findings.

ANIMAL ID: 1445	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703045

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; affects all lung lobes		
[FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1445	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703045

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		ANGIECTASIS	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1446	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703046

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 5 X 3 X 3 mm [CYST TGLS = TGL5]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 4 mm; affects all lung lobes [FOCUS TGLS = TGL1]			
MAMMARY GLAND	RIGHT	MASS	RED
	RIGHT, THORACIC	MASS	TAN
Observation Comment: perineum; 8 X 8 X 4 mm Observation Comment: 25 X 20 X 10 mm Observation Comment: 25 X 18 X 11 mm [MASS TGLS = TGL2] [MASS TGLS = TGL3] [MASS TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 8 X 4 X 4 mm [ENLARGED TGLS = TGL6]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1446	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703046

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	CYST	
[CYST TGLS = TGL 5-18, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MILD
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOMA	
	DUCT	DILATION	MILD
		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 2-18, TGL 3-19, TGL 4-20			
[ADENOMA TGLS = TGL2-18, Gross Finding = MAMMARY GLAND, RIGHT, MASS, RED]			
[FIBROADENOMA TGLS = TGL3-19, TGL4-20, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
PANCREAS	ACINUS	ATROPHY	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 6-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any gross finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1447	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703047

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	LOBE, MEDIAN	CYST	CLEAR, FOUR
Observation Comment: up to 3 mm diameter [CYST TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 6 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL4]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 35 X 33 X 20 mm [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 5 mm diameter [CYST TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1447	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703047

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		BASOPHILIC FOCUS	MULTIPLE
		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	CYST	
[CYST TGLS = TGL 3-12, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR, FOUR]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 2-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

Animal Note: Damaged tail was confirmed at necropsy, but did not correlate with any necropsy finding.

ANIMAL ID: 1448	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703048

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 6 X 4 mm; affects all lung lobes		
[FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1448	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703048

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	THYMUS	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		ANGIECTASIS	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Animal Note: Kinked tail was noted at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1449	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD581
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703049

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LEFT, RIGHT	FOCUS	CAUDAL, WHITE
Observation Comment: multiple; up to 2 X 2 mm [FOCUS TGLS = TGL2]			
MAMMARY GLAND	VENTRAL, ABDOMINAL	MASS	MOTTLED
Observation Comment: 124 X 123 X 48 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1449	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD581
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703049

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	THYMUS
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, LEFT, RIGHT, FOCUS, CAUDAL, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, VENTRAL, ABDOMINAL, MASS, MOTTLED]			
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA

Animal Note: Kinked tail, pallor, and thinness were noted at necropsy, but did not correlate with any specific necropsy findings.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1450	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703050

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, MEDIAN	FOCUS	TAN
Observation Comment: 5 X 3 mm [FOCUS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 6 X 5 X 2 mm [ENLARGED TGLS = TGL3]			
THYROID GLAND	RIGHT	FOCUS	WHITE
Observation Comment: 3 X 3 mm [FOCUS TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1450	TRT#: F1-4	DOSE: 300 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703050

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
[CLEAR CELL FOCUS TGLS = TGL 1-12, Gross Finding = LIVER, LOBE, MEDIAN, FOCUS, TAN]			
MAMMARY GLAND	LOBULOALVEOLAR	HYPERPLASIA	MILD
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
THYROID GLAND	FOLLICULAR CELL	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = THYROID GLAND, RIGHT, FOCUS, WHITE]			

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1451	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703121

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL2]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
Observation Comment: 40 X 35 X 16 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 5 X 4 X 3 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1451	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703121

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE

Animal Note: Kinked tail was seen at necropsy, but did not correlate with any specific necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1452	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD427
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703122

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT	PELVIS	DILATION	CLEAR
Observation Comment: 25 X 12 mm [DILATION TGLS = TGL3]			
KIDNEY, RIGHT	PELVIS	DILATION	CLEAR
Observation Comment: 20 X 9 mm [DILATION TGLS = TGL4]			
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 5 X 5 X 5 mm [CYST TGLS = TGL1]			
VAGINA	DORSAL	MASS	MOTTLED
Observation Comment: wall; 28 X 20 X 15 mm; incorporates vagina and urinary bladder [MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1452	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD427
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703122
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	UTERUS	UTERUS, CERVIX	
NOT PRESENT				
CLITORAL GLAND	LYMPH NODE	URINARY BLADDER		
OBSERVATIONS				
AORTA		MINERAL	MODERATE	
KIDNEY	PELVIS	DILATION	MODERATE	
Tissue Comment: TGL 3-8, TGL 4-8				
[DILATION TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, LEFT, PELVIS, DILATION, CLEAR]				
[DILATION TGLS = TGL3-8, TGL4-8, Gross Finding = KIDNEY, RIGHT, PELVIS, DILATION, CLEAR]				
OVARY	FOLLICLES	CYST		
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]				
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
	FOLLICULAR CELL	HYPERTROPHY	MINIMAL	
VAGINA		SQUAMOUS CELL CARCINOMA		
[SQUAMOUS CELL CARCINOMA TGLS = TGL 2-18, Gross Finding = VAGINA, DORSAL, MASS, MOTTLED]				
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY DILATION PELVIS			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1453	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD232
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703123

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

NO CORRELATE		TO OBSERVATION / MASS	
UTERUS	LEFT	CYST	CLEAR
Observation Comment: horn; 5 X 5 X 5 mm			
[CYST TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1453	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD232
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703123

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	NERVE, SCIATIC	NERVE, TIBIAL	NERVE, TRIGEMINAL
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPINAL CORD, CERVICAL
SPINAL CORD, LUMBAR	SPINAL CORD, THORACIC	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

[HYPERPLASIA TGLS = TGL 1-17, Gross Finding = UTERUS, LEFT, CYST, CLEAR]

PRIMARY CAUSE OF DEATH - UNDETERMINED

Animal Note: Damaged tail, red discharge nose/snout, and ruffled coat were confirmed at necropsy, but not correlated with any necropsy findings.

ANIMAL ID: 1454	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD461
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703124

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple, up to 3 X 2 mm; affects all lung lobes; found at trim		
[FOCUS TGLS = TGL1]		
NO CORRELATE	TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1454	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD461
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703124

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		EOSINOPHILIC FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED

PRIMARY CAUSE OF DEATH - UNDETERMINED

Animal Note: Pallor confirmed at necropsy, but not correlated with any specific necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1455	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703125

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 2 X 1 mm; affects all lung lobes [FOCUS TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	
OVARY, LEFT	CYST	CLEAR
Observation Comment: 3mm dia [CYST TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1455	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703125

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NO SECTION

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		CLEAR CELL FOCUS	MULTIPLE
		EOSINOPHILIC FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	LOBULOALVEOLAR	HYPERPLASIA	MINIMAL
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL

Animal Note: Kinked tail was confirmed at necropsy, but did not correlate with any necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1456	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD479
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703126

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	RIGHT	CYST	RED
Observation Comment: anterior; 7 X 6 X 3 mm [CYST TGLS = TGL3]			
MAMMARY GLAND	LEFT	MASS	MOTTLED
	LEFT, THORACIC	MASS	YELLOW
Observation Comment: perineum; 60 X 50 X 10 mm; ulcerated Observation Comment: 57 X 48 X 17 mm [MASS TGLS = TGL2] [MASS TGLS = TGL4]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	TAN
Observation Comment: 4 X 3 X 2 mm [ENLARGED TGLS = TGL5]			
SPLEEN		ENLARGED	
Observation Comment: 60 X 15 X 5 mm [ENLARGED TGLS = TGL1]			

ANIMAL ID: 1456	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD479
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703126
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER	
UTERUS	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER	BILE DUCT	CYST		
[CYST TGLS = TGL 3-20, Gross Finding = LIVER, RIGHT, CYST, RED]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 2-18, TGL 4-19				
[FIBROADENOMA TGLS = TGL2-18, TGL4-19, Gross Finding = MAMMARY GLAND, LEFT, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-18, TGL4-19, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, YELLOW]				
OVARY	FOLLICLES	CYST		
PITUITARY GLAND		NO CORRESPONDING LESION		
[NO CORRESPONDING LESION TGLS = TGL 5-NCL, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 1-8, Gross Finding = SPLEEN, ENLARGED,]				
STOMACH, GLANDULAR		MINERAL	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE				
Animal Note: Pallor and thinness were noted at necropsy, but not correlated with any specific necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1457	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD504
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703127

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	RED
Observation Comment: 12 X 8 X 7 mm		
[ENLARGED TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1457	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD504
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703127
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE	LYMPH NODE, MESENTERIC	THYMUS		
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
CONTRIBUTORY CAUSE OF DEATH				
- PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Thinness and ruffled coat were noted at necropsy, but did not correlate with any specific necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1458	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD609
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703128

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 4 mm; involves all lobes. [FOCUS TGLS = TGL2]			
MAMMARY GLAND	THORACIC	MASS	MOTTLED
Observation Comment: 110 X 80 X 55 mm; ulcerated; filled with thick caseous material [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1458	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD609
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703128

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LIVER	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE	LYMPH NODE, MANDIBULAR	THYMUS

OBSERVATIONS

LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7 [INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, THORACIC, MASS, MOTTLED]			
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA

Animal Note: Kinked tail was seen at necropsy, but not correlated with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1459	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD602
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703129

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 2 mm; all lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	INGUINAL	MASS	MOTTLED
	THORACIC	MASS	MOTTLED
Observation Comment: 44 X 26 X 25 mm Observation Comment: 80 X 75 X 50 mm; ulcerated [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1459	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD602
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703129
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		NECROSIS	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND		ADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[ADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]				
[ADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, THORACIC, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND ADENOMA MULTIPLE				
Animal Note: Pallor and thinness were noted at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1460	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD421
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703130

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	RIGHT	FOCUS	WHITE
Observation Comment: caudal; 3 X 3 mm [FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT	MASS	TAN
	RIGHT, AXILLARY	MASS	MOTTLED
Observation Comment: perineum; 35 X 20 X 20 mm Observation Comment: 45 X 38 X 30 mm; ulcerated; multilobulated, only one mass present (i, e. TGL 2 = one mass only) [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	RED
Observation Comment: 59 X 17 X 10 mm [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1460	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD421
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703130
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	CLITORAL GLAND	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	SALIVARY GLAND	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
BRAIN	MENINGES	INFLAMMATION	CHRONIC, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
	RENAL TUBULE	NECROSIS	MINIMAL	
LIVER		NECROSIS	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
[INFILTRATION CELLULAR TGLS = TGL 3-7, Gross Finding = LUNG, RIGHT, FOCUS, WHITE]				
MAMMARY GLAND		ADENOCARCINOMA		
	DUCT	DILATION	MILD	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[ADENOCARCINOMA TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MARKED	
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 4-8, Gross Finding = SPLEEN, ENLARGED, RED]				
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND ADENOCARCINOMA				
Animal Note: Ruffled coat, pallor, thinness were confirmed at necropsy, but not correlated with any necropsy findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1461	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703131

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	LARYNX	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, RIGHT		CYST	CLEAR
Observation Comment: 3 X 2 X 2 mm [CYST TGLS = TGL4]			
LIVER	LOBE, MEDIAN	DEFORMITY	TAN
Observation Comment: 9 X 6 X 3 mm; consistent with HDN (hepatodiaphragmatic nodule) [DEFORMITY TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 3 mm; affects the left and right caudal lung lobes [FOCUS TGLS = TGL5]			
MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
Observation Comment: 27 X 21 X 10 mm [MASS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 6 X 6 X 6 mm [CYST TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1461	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703131

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE	THYMUS

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL 4-8, Gross Finding = KIDNEY, RIGHT, CYST, CLEAR]			
LIVER		HEPATODIAPHRAGMATIC NODULE	
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL 3-12, Gross Finding = LIVER, LOBE, MEDIAN, DEFORMITY, TAN]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 5-6, TGL 5-7			
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
STOMACH, GLANDULAR		MINERAL	MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1462	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703132

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT	DEFORMITY ENLARGED	TAN TAN
Observation Comment: granular		
Observation Comment: 1.5 X expected size		
[DEFORMITY TGLS = TGL2]		
[ENLARGED TGLS = TGL1]		
KIDNEY, RIGHT	DEFORMITY	TAN
Observation Comment: granular		
[DEFORMITY TGLS = TGL3]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 4 X 4 mm; affects all lung lobes		
[FOCUS TGLS = TGL5]		
NO CORRELATE	TO OBSERVATION / MASS	
PANCREAS	NODULE	TAN
Observation Comment: 5 X 4 X 1 mm		
[NODULE TGLS = TGL4]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1462	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703132

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
OVARY	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 1-8, TGL 2-8, TGL 3-8		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL3-8, Gross Finding = KIDNEY, LEFT, ENLARGED, TAN]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL1-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]		
LIVER	BASOPHILIC FOCUS	MULTIPLE
LUNG	NO CORRESPONDING LESION	
[NO CORRESPONDING LESION TGLS = TGL 5-NCL, Gross Finding = LUNG, FOCUS, WHITE]		
PANCREAS	NO CORRESPONDING LESION	CYSTIC, MINIMAL
[NO CORRESPONDING LESION TGLS = TGL 4-NCL, Gross Finding = PANCREAS, NODULE, TAN]		
UTERUS	ENDOMETRIUM	
	HYPERPLASIA	
	STROMAL POLYP	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1463	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703133

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM Observation Comment: 4 X expected size; Peyer`s Patch [ENLARGED TGLS = TGL2]	ENLARGED	TAN
LUNG Observation Comment: multiple; up to 2 X 2 mm; affects left and right caudal lung lobes [FOCUS TGLS = TGL1]	FOCUS	WHITE
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND Observation Comment: 10 X 6 X 5 mm [ENLARGED TGLS = TGL3]	ENLARGED	MOTTLED

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1463	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD637
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703133

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM		LEIOMYOMA	
[LEIOMYOMA TGLS = TGL 2-18, Gross Finding = INTESTINE, SMALL, JEJUNUM, ENLARGED, TAN]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 1-6, TGL 1-7			
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
OVARY		INFLAMMATION	CHRONIC, MODERATE
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Kinked tail and ruffled coat were seen at necropsy, but did not correlate with any necropsy findings

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1464	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703134

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes except right middle lobe [FOCUS TGLS = TGL4]			
MAMMARY GLAND	LEFT	MASS	MOTTLED
Observation Comment: perineum; 76 X 72 X 32 mm; filled with white material [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, LEFT		CYST	CLEAR
Observation Comment: 5 X 5 X 3 mm [CYST TGLS = TGL2]			
PITUITARY GLAND		NODULE	RED
Observation Comment: 2 X 1 X 1 mm [NODULE TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1464	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703134

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
	RENAL TUBULE	HYALINE DROPLET ACCUMULATION	MINIMAL
LIVER		CLEAR CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
	INTERSTITIUM	INFLAMMATION	CHRONIC, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	
	LOBULOALVEOLAR	HYPERPLASIA	MILD
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, MASS, MOTTLED]			
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
[HYPERPLASIA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, NODULE, RED]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYMUS	C-CELL	ECTOPIC TISSUE	
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	ATYPICAL, MODERATE
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL

Animal Note: Kinked tail was noted at necropsy, but not correlated with any necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1465	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703135

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	RIGHT, AXILLARY	MASS	TAN
Observation Comment: 60 X 55 X 35 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 6 X 5 X 4 mm [ENLARGED TGLS = TGL2]			
UTERUS	RIGHT	MASS	TAN
Observation Comment: horn; 6 X 6 X 6 mm [MASS TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1465	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD640
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703135

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		ADENOMA	
	DUCT	DILATION	MINIMAL
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, AXILLARY, MASS, TAN]			
PANCREAS	ACINUS	ATROPHY	MINIMAL
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL
		STROMAL POLYP	
[STROMAL POLYP TGLS = TGL 4-17, Gross Finding = UTERUS, RIGHT, MASS, TAN]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1466	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703136

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT [DEFORMITY TGLS = TGL2]	DEFORMITY	PALE
KIDNEY, RIGHT [DEFORMITY TGLS = TGL1]	DEFORMITY	PALE
LUNG Observation Comment: multiple; up to 3 X 3 mm; affects all lung lobes [FOCUS TGLS = TGL3]	FOCUS	WHITE

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1466	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703136
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MODERATE	
Tissue Comment: TGL 1-8, TGL 2-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL1-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
OVARY		CYST	PARAOVARIAN	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, FORESTOMACH	SUBMUCOSA	INFLAMMATION	CHRONIC-ACTIVE, MODERATE	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED	

ANIMAL ID: 1467	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD535
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703137

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	LEFT, AXILLARY	MASS	TAN
Observation Comment: 20 X 20 X 9 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

ANIMAL ID: 1467	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD535
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703137
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		FATTY CHANGE	FOCAL, MINIMAL	
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, AXILLARY, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
THYROID GLAND	C-CELL	ADENOMA		
	C-CELL	HYPERPLASIA	MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Ruffled coat, red nasal discharge, and thinness confirmed at necropsy, but not correlated with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1468	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD630
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703138

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	LOBE, LEFT	FOCUS	WHITE
Observation Comment: multiple; up to 1 X 1 mm [FOCUS TGLS = TGL1]			
MAMMARY GLAND	ABDOMINAL	MASS	WHITE
Observation Comment: tan (as well as white); 80 X 35 X 20 mm; recorded on wet tissue exam with pathologist (KP) [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1468	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD630
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703138
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
AUTOLYSIS PRECLUDES EVALUATION				
INTESTINE, LARGE, CECUM	INTESTINE, SMALL, ILEUM			
NOT PRESENT				
CLITORAL GLAND	INTESTINE, SMALL, JEJUNUM	LYMPH NODE		
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
[INFILTRATION CELLULAR TGLS = TGL 1-6, Gross Finding = LUNG, LOBE, LEFT, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
[FIBROADENOMA TGLS = TGL 2-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, WHITE]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE	
THYMUS		CYST		
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- MAMMARY GLAND FIBROADENOMA			
Animal Note: Kinked tail and partial cannabilization of left front paw confirmed at necropsy, but not correlated with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1469	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD610
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703139

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 6 X 4 mm; all lobes [FOCUS TGLS = TGL2]		
NO CORRELATE	TO OBSERVATION / MASS	
PITUITARY GLAND	ENLARGED	MOTTLED
Observation Comment: 12 X 7 X 6 mm; accounts for ataxia noted clinically [ENLARGED TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1469	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD610
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703139
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
LIVER	BILE DUCT	HYPERPLASIA	MILD	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Ruffled coat and thinness noted at necropsy, but not correlated with any gross findings				

ANIMAL ID: 1470	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703140

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 10 X 9 mm; affects all lung lobes [FOCUS TGLS = TGL2]			
MAMMARY GLAND	LEFT	MASS	MOTTLED
Observation Comment: perineum; 50 X 46 X 24 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1470	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703140
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE	PARATHYROID GLAND			
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MINIMAL	
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER		MIXED CELL FOCUS		
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE	
STOMACH, GLANDULAR		MINERAL	MINIMAL	
THYROID GLAND	C-CELL	ADENOMA		
	C-CELL	HYPERPLASIA	MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	

ANIMAL ID: 1471	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD388
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703141

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

EYE		
Tissue Comment: Right eye missing due to cannabilization		
HARDERIAN GLAND		
Tissue Comment: Right Harderian gland missing due to cannibalization		
LUNG	FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects all lobes		
[FOCUS TGLS = TGL1]		
SALIVARY GLANDS		
Tissue Comment: Right salivary glands missing due to cannibalization		
SKIN		
Tissue Comment: Skin over right side of head was missing due to cannibalization		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1471	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD388
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703141
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
EYE	LYMPH NODE			
OBSERVATIONS				
HARDERIAN GLAND				
Tissue Comment: Only one Harderian gland in slide set (cannibalized)				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1472	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD428
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703142

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE	BONE, FEMUR
BRAIN	CARCASS	CERVIX	CLITORAL GLAND
ESOPHAGUS	EYE	HARDERIAN GLAND	HEART
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT
LARYNX	LIVER	LUNG	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	RIGHT	MASS	TAN
	RIGHT, INGUINAL	MASS	TAN
Observation Comment: neck; 20 X 10 X 5 mm			
Observation Comment: 30 X 20 X 10 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 10 X 8 X 5 mm			
[ENLARGED TGLS = TGL4]			
UTERUS	BILATERAL	DILATION	RED
Observation Comment: horn; up to 10 mm diameter			
[DILATION TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1472	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD428
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703142
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HARDERIAN GLAND	ACINUS	ATROPHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
MAMMARY GLAND		ADENOMA		
	DUCT	DILATION	MILD	
		FIBROADENOMA		
Tissue Comment: TGL 1-19, TGL 2-18				
[ADENOMA TGLS = TGL1-19, Gross Finding = MAMMARY GLAND, RIGHT, MASS, TAN]				
[FIBROADENOMA TGLS = TGL2-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-19, Gross Finding = PITUITARY GLAND, ENLARGED, RED]				
THYROID GLAND	C-CELL	HYPERPLASIA	MILD	
UTERUS		ADENOCARCINOMA		
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MODERATE	
Tissue Comment: TGL 3-16, TGL 3-17, TGL 3-18				
[ADENOCARCINOMA TGLS = TGL3-16, Gross Finding = UTERUS, BILATERAL, DILATION, RED]				
CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Vaginal discharge, thinness, and pallor confirmed at necropsy, but not correlated with any necropsy findings.				

ANIMAL ID: 1473	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703143

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

MAMMARY GLAND	ABDOMINAL	MASS	MOTTLED
Observation Comment: 93 X 75 X 45 mm			
[MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1473	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703143

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, MOTTLED]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE
THYMUS	EPITHELIUM	HYPERPLASIA	MODERATE
UTERUS		ADENOCARCINOMA	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1474	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703144

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 45 X 40 X 25 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1474	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703144

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART	CARDIOMYOPATHY	MINIMAL
KIDNEY	CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 2-8, TGL 3-8		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]		
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]		
LIVER	BASOPHILIC FOCUS	MULTIPLE
	CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	MILD
MAMMARY GLAND	FIBROADENOMA	
	LOBULOALVEOLAR	MILD
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]		

ANIMAL ID: 1475	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703145

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

STOMACH, FORESTOMACH	NODULE	TAN
Observation Comment: 5 X 5 X 3 mm; found at trim		
[NODULE TGLS = TGL1]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1475	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703145

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
MAMMARY GLAND	DUCT	DILATION	MINIMAL
STOMACH, FORESTOMACH	SQUAMOUS CELL	PAPILLOMA	
[PAPILLOMA TGLS = TGL 1-9, Gross Finding = STOMACH, FORESTOMACH, NODULE, TAN]			
STOMACH, GLANDULAR		MINERAL	MILD
THYROID GLAND	C-CELL	ADENOMA	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1476	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703146

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; involves all lobes [FOCUS TGLS = TGL2]			
MAMMARY GLAND	VENTRAL	MASS	MOTTLED
Observation Comment: 130 X 95 X 44 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1476	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703146
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	OVARY	
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
	BILE DUCT	HYPERPLASIA	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, VENTRAL, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND FIBROADENOMA				
Animal Note: Kinked tail, pallor and thinness were seen at necropsy, but not correlated with any of the gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1477	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD514
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703147

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY DILATION	PALE
Observation Comment: granular			
Observation Comment: 3 X 3 mm; found at trim			
[DEFORMITY TGLS = TGL4]			
[DILATION TGLS = TGL6]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 18 X 13 mm; affects all lung lobes			
[FOCUS TGLS = TGL5]			
MAMMARY GLAND	RIGHT	MASS	MOTTLED
	RIGHT, INGUINAL	MASS	MOTTLED
Observation Comment: perineum; 64 X 42 X 27 mm; external genitalia obscured by mass			
Observation Comment: 64 X 36 X 15 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1477	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD514
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703147
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
AORTA		MINERAL	MINIMAL	
INTESTINE, LARGE, CECUM		MINERAL	MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 3-8, TGL 4-8, TGL 6-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DILATION,]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL6-8, TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 5-6, TGL 5-7				
[INFILTRATION CELLULAR TGLS = TGL5-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, MASS, MOTTLED]				
STOMACH, GLANDULAR		MINERAL	MILD	
UTERUS		INFLAMMATION	CHRONIC, MARKED	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
- UTERUS INFLAMMATION CHRONIC				
Animal Note: Kinked tail, thinness, ruffled coat were seen at necropsy, but did not correlate with any necropsy findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1478	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD490
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703148

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; affects all lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	LEFT, THORACIC	MASS	TAN
	RIGHT, INGUINAL	MASS	TAN
Observation Comment: 90 X 75 X 30 mm Observation Comment: 110 X 95 X 50 mm; incorporates the clitoral glands [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1478	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD490
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703148
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	
OVARY	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, TAN]				
THYROID GLAND	C-CELL	HYPERPLASIA	MODERATE	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- MAMMARY GLAND FIBROADENOMA MULTIPLE				
Animal Note: Kinked tail, thinness, pallor, and red nasal discharge noted at necropsy, but not correlated with any necropsy findings.				

ANIMAL ID: 1479	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD635
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703149

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

CANNABILIZED
OVARY, RIGHT

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS	
SKIN	MASS	MOTTLED
Observation Comment: 28 X 20 X 18 mm; found at trim		
[MASS TGLS = TGL1]		

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1479	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD635
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703149

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
	PELVIS	DILATION	MILD
LIVER		NECROSIS	MILD
MAMMARY GLAND		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = SKIN, LEFT, THORACIC, MASS, MOTTLED]			
OVARY			
Tissue Comment: Only one ovary in slide set			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MILD
URINARY BLADDER		LEIOMYOSARCOMA	
UTERUS		ADENOCARCINOMA	
		LEIOMYOSARCOMA	METASTATIC
		PAPILLOMA	SQUAMOUS

Observation Comment: Primary leiomyosarcoma was in the Urinary Bladder

PRIMARY CAUSE OF DEATH	- UNDETERMINED
CONTRIBUTORY CAUSE OF DEATH	- URINARY BLADDER LEIOMYOSARCOMA

Animal Note: Partial cannabilization confirmed at necropsy; does not correlate with any of the gross findings.

ANIMAL ID: 1480	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703150

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 35 X 25 X 10 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 6 X 6 X 2 mm [ENLARGED TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1480	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD639
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703150

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL CORTEX		HYPERPLASIA	FOCAL, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 2-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]			
STOMACH, GLANDULAR		MINERAL	MINIMAL
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1481	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD603
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703151

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

LIVER	CAUDATE LOBE	FOCUS	TAN
Observation Comment: 1 X 1 mm [FOCUS TGLS = TGL2]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 2 mm; affects all lung lobes [FOCUS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
Observation Comment: Discharge, nose/snout was not noted or correlated at the time of necropsy, commented later by pathologist as having no impact. correlated in provantis for completion. Not related to any lesions found at necropsy as verified by no nasal abnormalities noted.			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 2 mm diameter [CYST TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 11 X 6 X 5 mm [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1481	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD603
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703151

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
SALIVARY GLAND	SKIN	SPLEEN	STOMACH, FORESTOMACH
THYMUS	THYROID GLAND	TRACHEA	URINARY BLADDER
UTERUS	UTERUS, CERVIX	VAGINA	

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		EOSINOPHILIC FOCUS	
[EOSINOPHILIC FOCUS TGLS = TGL 2-18, Gross Finding = LIVER, CAUDATE LOBE, FOCUS, TAN]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MINIMAL
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 1-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]			
STOMACH, GLANDULAR		MINERAL	MINIMAL

CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Kinked tail, thinness, ruffled coat, ocular noted at necropsy, but not correlated to any necropsy findings. Discharge, nose/snout, red not correlated or noted at necropsy but noted after by pathologist as having no impact to study.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1482	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703152

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; all lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	THORACIC	MASS	TAN
Observation Comment: 9 X 6 X 3 mm Observation Comment: 30 X 24 X 8 mm [MASS TGLS = TGL2] [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 8 X 6 X 5 mm [ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1482	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD597
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703152
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		BASOPHILIC FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 3-6, TGL 3-7				
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MINIMAL	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19				
[DILATION TGLS = TGL2-19, Gross Finding = MAMMARY GLAND, THORACIC, MASS, TAN]				
[FIBROADENOMA TGLS = TGL2-19, TGL1-18, Gross Finding = MAMMARY GLAND, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-8, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
STOMACH, GLANDULAR		MINERAL	MILD	
CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1483	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD405
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703153

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	LEFT, INGUINAL	MASS	MOTTLED
Observation Comment: 150 X 110 X 50 mm; ulcerated; appears to be one large mass, not two separate masses.			
[MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		ENLARGED	
Observation Comment: 4 X expected size; found at trim			
[ENLARGED TGLS = TGL2]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1483	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD405
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703153

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
NOSE	OVARY	PANCREAS	PARATHYROID GLAND
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL GLAND		
Tissue Comment: Only one adrenal medulla with slide set		
EAR	INFLAMMATION	SUPPURATIVE, MODERATE
LIVER	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE
MAMMARY GLAND	FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, MOTTLED]		
SPLEEN	EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MARKED
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 2-8, Gross Finding = SPLEEN, ENLARGED,]		

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA

Animal Note: Thinness was noted at necropsy, but not correlated with any necropsy finding.

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1484	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD122
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703154

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	OVIDUCT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

NO CORRELATE	TO OBSERVATION / MASS

ANIMAL ID: 1484	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD122
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703154
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
MAMMARY GLAND	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN	
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
	RENAL TUBULE	NECROSIS	MILD	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
CONTRIBUTORY CAUSE OF DEATH	- KIDNEY NECROSIS RENAL TUBULE			
Animal Note: Red nasal and eye discharge noted at necropsy, but not correlated with any specific gross findings.				

ANIMAL ID: 1485	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703155

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX	LIVER
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM	MASS	TAN
Observation Comment: 13 X 10 X 10 mm [MASS TGLS = TGL1]		
LUNG	FOCUS	WHITE
Observation Comment: multiple; 2 X 2 mm; affects all lobes; found at trim [FOCUS TGLS = TGL2]		

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1485	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703155

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE	OVARY
PANCREAS	PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

INTESTINE, SMALL, JEJUNUM		ADENOCARCINOMA	
[ADENOCARCINOMA TGLS = TGL 1-18, Gross Finding = INTESTINE, SMALL, JEJUNUM, MASS, TAN]			
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		CLEAR CELL FOCUS	MULTIPLE
	BILE DUCT	HYPERPLASIA	MINIMAL
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-6, TGL 2-7			
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]			
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

ANIMAL ID: 1486	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD264
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703156

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MAMMARY GLAND	MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL
NOSE	OVARY, LEFT	OVARY, RIGHT	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

MAMMARY GLAND	
Tissue Comment: Left axillarey mammary gland and associated skin are missing due to cannibalization	
NO CORRELATE	TO OBSERVATION / MASS

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1486	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD264
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703156
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
PRIMARY CAUSE OF DEATH	- UNDETERMINED			
Animal Note: Missing tail and cannibalization are confirmed at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1487	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703157

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

MAMMARY GLAND	RIGHT, INGUINAL	MASS	MOTTLED
Observation Comment: 65 X 55 X 25 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
SKIN	FACE, LEFT	MASS	MOTTLED
Observation Comment: right; 50 X 40 X 25 mm; ulcerated; mass dorsal extending on right and left side; compressed eyelids on left and right to account for eye abnormality. [MASS TGLS = TGL2]			
SPLEEN		ENLARGED	DARK
Observation Comment: 58 X 15 X 15 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1487	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD532
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703157
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS	
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
EYE	ANTERIOR CHAMBER	INFLAMMATION	CHRONIC, MILD	
	CORNEA	INFLAMMATION	CHRONIC, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
MAMMARY GLAND		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, INGUINAL, MASS, MOTTLED]				
OVARY	FOLLICLES	CYST		
		CYST	PARAOVARIAN	
SKIN		SCHWANNOMA	BENIGN	
[SCHWANNOMA TGLS = TGL 2-19, Gross Finding = SKIN, FACE, LEFT, MASS, MOTTLED]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MODERATE	
[EXTRAMEDULLARY HEMATOPOIESIS TGLS = TGL 3-8, Gross Finding = SPLEEN, ENLARGED, DARK]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- SKIN SCHWANNOMA BENIGN				
Animal Note: Ruffled coat and eye abnormality (compressed eyelids) were confirmed at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1488	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703158

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

LIVER	CAUDATE LOBE	CYST	CLEAR
	LOBE, MEDIAN	CYST	CLEAR
	RIGHT	CYST	CLEAR
	LOBE, MEDIAN	FOCUS	DARK
Observation Comment: 7 X 5 X 1 mm			
Observation Comment: 1 X 1 X 1 mm			
Observation Comment: anterior; 1 X 1 X 1 mm			
Observation Comment: 2 X 2 mm			
[CYST TGLS = TGL2]			
[CYST TGLS = TGL4]			
[CYST TGLS = TGL3]			
[FOCUS TGLS = TGL5]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 3 X 3 mm; affects all lung lobes except right middle			
[FOCUS TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1488	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703158
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND	
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA	
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD	
LIVER	BILE DUCT	CYST		
	BILE DUCT	HYPERPLASIA	MINIMAL	
		NO CORRESPONDING LESION		
Tissue Comment: TGL 2-18, TGL 3-19, TGL 4-NCL, TGL 5-NCL				
[CYST TGLS = TGL2-18, TGL3-19, Gross Finding = LIVER, CAUDATE LOBE, CYST, CLEAR]				
[CYST TGLS = TGL2-18, TGL3-19, Gross Finding = LIVER, RIGHT, CYST, CLEAR]				
[NO CORRESPONDING LESION TGLS = TGL4-NCL, Gross Finding = LIVER, LOBE, MEDIAN, CYST, CLEAR]				
[NO CORRESPONDING LESION TGLS = TGL5-NCL, Gross Finding = LIVER, LOBE, MEDIAN, FOCUS, DARK]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 1-6, TGL 1-7				
[INFILTRATION CELLULAR TGLS = TGL1-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MODERATE	
UTERUS	ENDOMETRIUM	HYPERPLASIA	ATYPICAL, MILD	
	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MILD	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1489	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD602
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703159

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH	NERVE, SCIATIC
NERVE, TIBIAL	NOSE	OVARY, LEFT	OVARY, RIGHT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LIVER	LOBE, MEDIAN	DEFORMITY	
Observation Comment: 10 X 7 X 3 mm; cosistent with HDN (hepatodiaphragmatic nodule) [DEFORMITY TGLS = TGL4]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 8 X 3 mm; all lobes [FOCUS TGLS = TGL3]			
MAMMARY GLAND	INGUINAL	MASS	MOTTLED
Observation Comment: 70 X 70 X 35 mm Observation Comment: 70 X 65 X 25 mm [MASS TGLS = TGL1] [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1489	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD602
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703159

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PITUITARY GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS	UTERUS, CERVIX
VAGINA			

NOT PRESENT

LYMPH NODE	PARATHYROID GLAND

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MILD
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		HEPATODIAPHRAGMATIC NODULE	
	BILE DUCT	HYPERPLASIA	MINIMAL
[HEPATODIAPHRAGMATIC NODULE TGLS = TGL 4-12, Gross Finding = LIVER, LOBE, MEDIAN, DEFORMITY,]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 3-6, TGL 3-7			
[INFILTRATION CELLULAR TGLS = TGL3-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND		FIBROADENOMA	MULTIPLE
Tissue Comment: TGL 1-18, TGL 2-19			
[FIBROADENOMA TGLS = TGL1-18, TGL2-19, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]			

CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND FIBROADENOMA MULTIPLE

Animal Note: Ruffled coat, nasal and eye discharge seen at necropsy, but not correlated with any gross findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1490	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD609
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703160

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL2]			
KIDNEY, RIGHT		DEFORMITY	PALE
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 6 X 6 X 3 mm [CYST TGLS = TGL5]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 1 mm; all lobes [FOCUS TGLS = TGL4]			
MAMMARY GLAND	RIGHT, THORACIC	MASS	TAN
Observation Comment: 40 X 34 X 9 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1490	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD609
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703160
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
HEART		CARDIOMYOPATHY	MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED	
Tissue Comment: TGL 2-8, TGL 3-8				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, PALE]				
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL2-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, PALE]				
LIVER	BILE DUCT	CYST		
[CYST TGLS = TGL 5-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]				
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 4-6, TGL 4-7				
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MINIMAL	
STOMACH, FORESTOMACH		CYST	SQUAMOUS	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH				
- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY				
Animal Note: Ruffled coat was noted at necropsy, but did not correlate with any specific necropsy finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1491	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703161

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	PITUITARY GLAND	SALIVARY GLANDS	SKIN
SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	THYROID GLAND	TONGUE	TRACHEA
TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

ABDOMEN		FLUID	CLEAR
Observation Comment: 2 ml			
[FLUID TGLS = TGL7]			
KIDNEY, LEFT		DEFORMITY	TAN
Observation Comment: granular			
[DEFORMITY TGLS = TGL3]			
KIDNEY, RIGHT		DEFORMITY	TAN
Observation Comment: granular			
[DEFORMITY TGLS = TGL2]			
LIVER	LOBE, LEFT	CYST	CLEAR
Observation Comment: 2 X 1 X 1 mm			
[CYST TGLS = TGL1]			
LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 4 X 3 mm; involves all lobes			
[FOCUS TGLS = TGL4]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 26 X 24 X 12 mm			
[MASS TGLS = TGL5]			
NO CORRELATE		TO OBSERVATION / MASS	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1491	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD549
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703161
THORAX		FLUID		CLEAR
Observation Comment: 4 ml				
[FLUID TGLS = TGL6]				

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS
PARATHYROID GLAND	PITUITARY GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	THYMUS	TRACHEA
URINARY BLADDER	UTERUS	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

HEART		CARDIOMYOPATHY	MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MARKED
Tissue Comment: TGL 2-8, TGL 3-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, LEFT, DEFORMITY, TAN]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL3-8, TGL2-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY, TAN]			
LIVER	BILE DUCT	CYST	
[CYST TGLS = TGL 1-12, Gross Finding = LIVER, LOBE, LEFT, CYST, CLEAR]			
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 4-6, TGL 4-7			
[INFILTRATION CELLULAR TGLS = TGL4-6, Gross Finding = LUNG, FOCUS, WHITE]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 5-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]			
STOMACH, GLANDULAR		MINERAL	MODERATE
THYROID GLAND	C-CELL	HYPERPLASIA	MINIMAL

CONTRIBUTORY CAUSE OF DEATH	- KIDNEY CHRONIC PROGRESSIVE NEPHROPATHY

Animal Note: Thinness noted at necropsy, but not correlated with any specific necropsy finding.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1492	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD535
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703162

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
	LEFT, THORACIC	MASS	TAN
Observation Comment: 32 X 25 X 13 mm			
Observation Comment: 12 X 12 X 3 mm			
Observation Comment: 70 X 55 X 20 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL4]			
[MASS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
OVARY, RIGHT		CYST	CLEAR
Observation Comment: 8 X 7 X 4 mm			
[CYST TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	RED
Observation Comment: 9 X 5 X 4 mm			
[ENLARGED TGLS = TGL5]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1492	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD535
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703162

HISTOPATH TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE
PANCREAS	PARATHYROID GLAND	SALIVARY GLAND	SKIN
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
MAMMARY GLAND		ADENOMA	MULTIPLE
		FIBROADENOMA	

Tissue Comment: TGL 2-18, TGL 3-19, TGL 4-20

[ADENOMA TGLS = TGL4-20, TGL2-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]

[ADENOMA TGLS = TGL4-20, TGL2-18, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]

[FIBROADENOMA TGLS = TGL3-19, Gross Finding = MAMMARY GLAND, LEFT, THORACIC, MASS, TAN]

OVARY	FOLLICLES	CYST

[CYST TGLS = TGL 1-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]

PITUITARY GLAND	PARS DISTALIS	ADENOMA

[ADENOMA TGLS = TGL 5-11, Gross Finding = PITUITARY GLAND, ENLARGED, RED]

CONTRIBUTORY CAUSE OF DEATH	- PITUITARY GLAND ADENOMA PARS DISTALIS

Animal Note: Occular and nasal discharges noted at necropsy, but not correlated with any necropsy findings.

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1493	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD574
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703163

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	LARYNX	LIVER	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
PANCREAS	PARATHYROID GLAND	PHARYNX	PITUITARY GLAND
SALIVARY GLANDS	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	UTERUS
VAGINA	ZYMBALS GLAND		

OBSERVATIONS

KIDNEY, LEFT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL4]			
KIDNEY, RIGHT		DEFORMITY	
Observation Comment: granular [DEFORMITY TGLS = TGL3]			
OVARY, RIGHT		CYST	CLEAR, TWO
Observation Comment: 5 X 4 X 3 mm [CYST TGLS = TGL2]			
SKIN	RIGHT, HINDLIMB	MASS	PALE
Observation Comment: 12 X 10 X 8 mm [MASS TGLS = TGL1]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1493	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD574
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Found Dead	HISTO: 1703163

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
NOSE	PANCREAS	PARATHYROID GLAND	PITUITARY GLAND
SALIVARY GLAND	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
Tissue Comment: TGL 3-8, TGL 4-8			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, LEFT, DEFORMITY,]			
[CHRONIC PROGRESSIVE NEPHROPATHY TGLS = TGL4-8, TGL3-8, Gross Finding = KIDNEY, RIGHT, DEFORMITY,]			
LIVER	BILE DUCT	HYPERPLASIA	MINIMAL
OVARY	FOLLICLES	CYST	
[CYST TGLS = TGL 2-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR, TWO]			
SKIN		KERATOACANTHOMA	
[KERATOACANTHOMA TGLS = TGL 1-18, Gross Finding = SKIN, RIGHT, HINDLIMB, MASS, PALE]			
THYROID GLAND	C-CELL	ADENOMA	
	C-CELL	HYPERPLASIA	MINIMAL

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1494	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703164

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
SALIVARY GLANDS	SKIN	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG		FOCUS	WHITE
Observation Comment: multiple; up to 2 X 2 mm; affects right caudal and left lung lobes [FOCUS TGLS = TGL2]			
MAMMARY GLAND	RIGHT, ABDOMINAL	MASS	TAN
Observation Comment: 25 X 25 X 10 mm [MASS TGLS = TGL1]			
PITUITARY GLAND		ENLARGED	MOTTLED
Observation Comment: 5 X 5 X 3 mm [ENLARGED TGLS = TGL3]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1494	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703164
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN	
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	TRACHEA	URINARY BLADDER	
UTERUS, CERVIX	VAGINA			
NOT PRESENT				
LYMPH NODE	THYMUS			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS	MULTIPLE	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL	
Tissue Comment: TGL 2-6, TGL 2-7				
[INFILTRATION CELLULAR TGLS = TGL2-6, Gross Finding = LUNG, FOCUS, WHITE]				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, RIGHT, ABDOMINAL, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 3-11, Gross Finding = PITUITARY GLAND, ENLARGED, MOTTLED]				
THYMUS				
Tissue Comment: Ectopic thyroid follicular tissue present				
THYROID GLAND	C-CELL	ADENOMA	MULTIPLE	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1495	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703165

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	PANCREAS
PARATHYROID GLAND	PHARYNX	PITUITARY GLAND	SALIVARY GLANDS
SKIN	SPINAL CORD	SPLEEN	STOMACH, FORESTOMACH
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TONGUE
TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER	VAGINA
ZYMBALS GLAND			

OBSERVATIONS

LIVER	LOBE, LEFT	FOCUS	RED
	LOBE, LEFT	FOCUS	WHITE
	LOBE, MEDIAN	FOCUS	TWO, WHITE
	LOBE, LEFT	NODULE	TAN
	RIGHT	NODULE	TAN
Observation Comment: 3 X 3 mm			
Observation Comment: 1 X 1 mm			
Observation Comment: 3 X 3 X 2 mm			
Observation Comment: anterior; 3 X 3 X 2 mm			
[FOCUS TGLS = TGL11]			
[FOCUS TGLS = TGL12]			
[FOCUS TGLS = TGL13]			
[NODULE TGLS = TGL10]			
[NODULE TGLS = TGL9]			
MAMMARY GLAND	LEFT, ABDOMINAL	MASS	TAN
Observation Comment: 85 X 60 X 20 mm			
[MASS TGLS = TGL1]			
OVARY, LEFT		CYST	CLEAR
Observation Comment: 7 X 7 X 3 mm			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1495	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703165
[CYST TGLS = TGL3]				
OVARY, RIGHT		CYST		CLEAR
Observation Comment: 15 X 15 X 4 mm				
[CYST TGLS = TGL2]				
UTERUS	LEFT	MASS		WHITE
	LEFT	NODULE		YELLOW
	RIGHT	NODULE		YELLOW
Tissue Comment: Greater than 5 masses or nodules present in uterus, largest 5 recorded				
Observation Comment: horn; 7x5x2mm				
Observation Comment: horn; 7 X 5 X 2 mm				
Observation Comment: horn; 5 X 5 X 4 mm				
Observation Comment: horn; 4 X 2 X 1 mm				
Observation Comment: horn; 4 X 3 X 1 mm				
[MASS TGLS = TGL5]				
[MASS TGLS = TGL4]				
[NODULE TGLS = TGL6]				
[NODULE TGLS = TGL8]				
[NODULE TGLS = TGL7]				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1495	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703165

HISTOPATH TISSUE STATUS**Within Normal Limits**

AORTA	BONE MARROW	BONE, FEMUR	BRAIN
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	NOSE	PANCREAS
PARATHYROID GLAND	SALIVARY GLAND	SKIN	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TRACHEA	URINARY BLADDER	UTERUS, CERVIX	VAGINA

NOT PRESENT

LYMPH NODE

OBSERVATIONS

ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL
LIVER		ANGIECTASIS	MINIMAL
		CLEAR CELL FOCUS	MULTIPLE
		MIXED CELL FOCUS	MULTIPLE
Tissue Comment: TGL 9-21, TGL 10-22, TGL 11-23, TGL 12-23, TGL 13-24			
[ANGIECTASIS TGLS = TGL11-23, Gross Finding = LIVER, LOBE, LEFT, FOCUS, RED]			
[CLEAR CELL FOCUS TGLS = TGL9-21, TGL13-24, Gross Finding = LIVER, LOBE, MEDIAN, FOCUS, TWO, WHITE]			
[CLEAR CELL FOCUS TGLS = TGL9-21, TGL13-24, Gross Finding = LIVER, RIGHT, NODULE, TAN]			
[MIXED CELL FOCUS TGLS = TGL12-23, TGL10-22, Gross Finding = LIVER, LOBE, LEFT, FOCUS, WHITE]			
[MIXED CELL FOCUS TGLS = TGL12-23, TGL10-22, Gross Finding = LIVER, LOBE, LEFT, NODULE, TAN]			
MAMMARY GLAND	DUCT	DILATION	MILD
		FIBROADENOMA	
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, ABDOMINAL, MASS, TAN]			
OVARY	BILATERAL, FOLLICLES	CYST	
Tissue Comment: TGL 2-14, TGL 3-14			
[CYST TGLS = TGL3-14, TGL2-14, Gross Finding = OVARY, LEFT, CYST, CLEAR]			
[CYST TGLS = TGL3-14, TGL2-14, Gross Finding = OVARY, RIGHT, CYST, CLEAR]			
PITUITARY GLAND	PARS DISTALIS	HYPERPLASIA	MILD
UTERUS		CYST	MULTIPLE, SQUAMOUS
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MARKED

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1495	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703165
		PAPILLOMA	SQUAMOUS	
Tissue Comment: TGL 4-17, TGL 4-19, TGL 5-19, TGL 6-19, TGL 7-20, TGL 8-20				
[CYST TGLS = TGL7-20, TGL5-19, TGL6-19, TGL8-20, Gross Finding = UTERUS, LEFT, MASS, WHITE]				
[CYST TGLS = TGL7-20, TGL5-19, TGL6-19, TGL8-20, Gross Finding = UTERUS, LEFT, NODULE, YELLOW]				
[CYST TGLS = TGL7-20, TGL5-19, TGL6-19, TGL8-20, Gross Finding = UTERUS, RIGHT, NODULE, YELLOW]				
[PAPILLOMA TGLS = TGL4-17, Gross Finding = UTERUS, LEFT, MASS, WHITE]				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1496	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703166

GROSS PATHOLOGY TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	ABDOMINAL	MASS	TAN
	THORACIC	MASS	TAN
Observation Comment: 75 X 60 X 20 mm			
Observation Comment: 50 X 40 X 12 mm			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	TAN
Observation Comment: 8 X 6 X 6 mm			
[ENLARGED TGLS = TGL1]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1496	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD561
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703166
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	CLITORAL GLAND	
ESOPHAGUS	EYE	HARDERIAN GLAND	INTESTINE, LARGE, CECUM	
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	
INTESTINE, SMALL, JEJUNUM	KIDNEY	LUNG	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NERVE, SCIATIC	NERVE, TIBIAL	NERVE, TRIGEMINAL	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
SALIVARY GLAND	SKIN	SPINAL CORD, CERVICAL	SPINAL CORD, LUMBAR	
SPINAL CORD, THORACIC	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
ADRENAL CORTEX		HYPERPLASIA	FOCAL, MARKED	
BRAIN	PERIVASCULAR	INFLAMMATION	CHRONIC, MINIMAL	
HEART	MYOCARDIUM	INFLAMMATION	CHRONIC, MILD	
LIVER		BASOPHILIC FOCUS		
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 2-18, TGL 3-19				
[FIBROADENOMA TGLS = TGL3-19, TGL2-18, Gross Finding = MAMMARY GLAND, ABDOMINAL, MASS, TAN]				
[FIBROADENOMA TGLS = TGL3-19, TGL2-18, Gross Finding = MAMMARY GLAND, THORACIC, MASS, TAN]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]				
THYROID GLAND	FOLLICULAR CELL, BILATERAL	HYPERTROPHY	MILD	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MODERATE	
CONTRIBUTORY CAUSE OF DEATH - PITUITARY GLAND ADENOMA PARS DISTALIS				
Animal Note: Kinked tail noted at necropsy, but not correlated with any necropsy finding.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1497	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703167

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
THYROID GLAND	TONGUE	TRACHEA	TRIGEMINAL GANGLION
URINARY BLADDER	UTERUS	VAGINA	ZYMBALS GLAND

OBSERVATIONS

MAMMARY GLAND	INGUINAL	MASS	MOTTLED
	LEFT, CERVICAL	MASS	MOTTLED
	RIGHT, THORACIC	MASS	MOTTLED
Observation Comment: 100 X 100 x 30 mm			
Observation Comment: 60 X 50 x 20 mm			
Observation Comment: 55 X 45 X 25 mm			
[MASS TGLS = TGL1]			
[MASS TGLS = TGL2]			
[MASS TGLS = TGL3]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 5 X 5 X 4 mm			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1497	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703167
HISTOPATH TISSUE STATUS				
Within Normal Limits				
AORTA	BONE MARROW	BONE, FEMUR	BRAIN	
CLITORAL GLAND	ESOPHAGUS	EYE	HARDERIAN GLAND	
HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	
INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LUNG	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE	LYMPH NODE, MANDIBULAR			
OBSERVATIONS				
ADRENAL MEDULLA		HYPERPLASIA	FOCAL, MINIMAL	
CLITORAL GLAND				
Tissue Comment: Only one clitoral gland in slide set				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
LIVER		CLEAR CELL FOCUS		
MAMMARY GLAND		FIBROADENOMA	MULTIPLE	
Tissue Comment: TGL 1-18, TGL 2-19, TGL 3-20				
[FIBROADENOMA TGLS = TGL2-19, TGL3-20, TGL1-18, Gross Finding = MAMMARY GLAND, INGUINAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, TGL3-20, TGL1-18, Gross Finding = MAMMARY GLAND, LEFT, CERVICAL, MASS, MOTTLED]				
[FIBROADENOMA TGLS = TGL2-19, TGL3-20, TGL1-18, Gross Finding = MAMMARY GLAND, RIGHT, THORACIC, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA		
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
SPLEEN		EXTRAMEDULLARY HEMATOPOIESIS	INCREASED, MINIMAL	
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MILD	
	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
Animal Note: Ruffled coat and thinness were noted at necropsy, but did not correlate with any gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1498	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703168

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SKIN	SPINAL CORD
SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

LUNG	LEFT	FOCUS	WHITE
	RIGHT, CRANIAL	FOCUS	CAUDAL, WHITE
Observation Comment: up to 3 X 2 mm; found at trim			
Observation Comment: accessory; up to 3 X 2 mm; found at trim			
[FOCUS TGLS = TGL3]			
[FOCUS TGLS = TGL2]			
PITUITARY GLAND		ENLARGED	TAN
Observation Comment: 6 X 4 X 4 mm			
[ENLARGED TGLS = TGL1]			
THYROID GLAND	LEFT	ENLARGED	
Observation Comment: 2 X expected size; found at trim			
[ENLARGED TGLS = TGL4]			

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

ANIMAL ID: 1498	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD638
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Scheduled Removal (Terminal)	HISTO: 1703168

HISTOPATH TISSUE STATUS

Within Normal Limits

ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM
LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MAMMARY GLAND	NOSE
OVARY	PANCREAS	PARATHYROID GLAND	SALIVARY GLAND
SKIN	SPLEEN	STOMACH, FORESTOMACH	STOMACH, GLANDULAR
THYMUS	TRACHEA	URINARY BLADDER	UTERUS
UTERUS, CERVIX	VAGINA		

NOT PRESENT

LYMPH NODE

OBSERVATIONS

KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MILD
LIVER		ANGIECTASIS	MINIMAL
		CLEAR CELL FOCUS	
LUNG	ALVEOLUS	INFILTRATION CELLULAR	HISTIOCYTE, MINIMAL
Tissue Comment: TGL 2-7, TGL 3-6			
[INFILTRATION CELLULAR TGLS = TGL3-6, TGL2-7, Gross Finding = LUNG, LEFT, FOCUS, WHITE]			
[INFILTRATION CELLULAR TGLS = TGL3-6, TGL2-7, Gross Finding = LUNG, RIGHT, CRANIAL, FOCUS, CAUDAL, WHITE]			
PITUITARY GLAND	PARS DISTALIS	ADENOMA	
[ADENOMA TGLS = TGL 1-11, Gross Finding = PITUITARY GLAND, ENLARGED, TAN]			
THYROID GLAND	C-CELL	ADENOMA	
[ADENOMA TGLS = TGL 4-11, Gross Finding = THYROID GLAND, LEFT, ENLARGED,]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1499	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD560
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703169

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, LEFT	KIDNEY, RIGHT	LARYNX
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC
MUSCLE, THIGH	NERVE, SCIATIC	NERVE, TIBIAL	NOSE
OVARY, LEFT	OVARY, RIGHT	PANCREAS	PARATHYROID GLAND
PHARYNX	SALIVARY GLANDS	SPINAL CORD	SPLEEN
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA		

OBSERVATIONS

MAMMARY GLAND	LEFT, INGUINAL	MASS	MOTTLED
Observation Comment: 40 X 35 X 20 mm [MASS TGLS = TGL1]			
NO CORRELATE		TO OBSERVATION / MASS	
PITUITARY GLAND		ENLARGED	DARK
Observation Comment: 7 X 6 X 3 mm [ENLARGED TGLS = TGL4]			
SKIN	RIGHT, PAW	CRUST	DARK
Observation Comment: 8 X 6 mm [CRUST TGLS = TGL3]			
ZYMBALS GLAND	RIGHT	MASS	MOTTLED
Observation Comment: 55 X 45 X 35 mm; ulcerated [MASS TGLS = TGL2]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1499	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD560
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703169
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	ESOPHAGUS	EYE	HEART	
INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	
INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	LIVER	LYMPH NODE, MANDIBULAR	
LYMPH NODE, MESENTERIC	NOSE	OVARY	PANCREAS	
PARATHYROID GLAND	SALIVARY GLAND	SPLEEN	STOMACH, FORESTOMACH	
STOMACH, GLANDULAR	THYMUS	THYROID GLAND	TRACHEA	
URINARY BLADDER	UTERUS, CERVIX	VAGINA		
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
CLITORAL GLAND		INFLAMMATION	SUPPURATIVE, MILD	
HARDERIAN GLAND		INFLAMMATION	GRANULOMATOUS, MINIMAL	
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
	PELVIS	DILATION	MINIMAL	
LUNG		CARCINOMA	METASTATIC	
Observation Comment: primay carcinoma in Zymbal`s gland				
MAMMARY GLAND	DUCT	DILATION	MILD	
		FIBROADENOMA		
[FIBROADENOMA TGLS = TGL 1-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, MOTTLED]				
PITUITARY GLAND	PARS DISTALIS	ADENOMA	MULTIPLE	
[ADENOMA TGLS = TGL 4-11, Gross Finding = PITUITARY GLAND, ENLARGED, DARK]				
SKIN	DERMIS	INFLAMMATION	CHRONIC, MODERATE	
[INFLAMMATION TGLS = TGL 3-20, Gross Finding = SKIN, RIGHT, PAW, CRUST, DARK]				
UTERUS	ENDOMETRIUM	HYPERPLASIA	CYSTIC, MINIMAL	
ZYMBALS GLAND		CARCINOMA		
[CARCINOMA TGLS = TGL 2-19, Gross Finding = ZYMBALS GLAND, RIGHT, MASS, MOTTLED]				
CONTRIBUTORY CAUSE OF DEATH				
- ZYMBALS GLAND CARCINOMA				
Animal Note: Ruffled coat, maloccluded teeth, and pallor were found at necropsy, but not correlated with any of the gross findings.				

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1500	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD461
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703170

GROSS PATHOLOGY TISSUE STATUS**Within Normal Limits**

ADRENAL GLAND	AORTA	BONE, FEMUR	BRAIN
CARCASS	CERVIX	CLITORAL GLAND	ESOPHAGUS
EYE	HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM
INTESTINE, LARGE, COLON	INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM
INTESTINE, SMALL, JEJUNUM	KIDNEY, RIGHT	LARYNX	LIVER
LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	MUSCLE, THIGH
NERVE, SCIATIC	NERVE, TIBIAL	NOSE	OVARY, LEFT
OVARY, RIGHT	PANCREAS	PARATHYROID GLAND	PHARYNX
PITUITARY GLAND	SALIVARY GLANDS	SKIN	SPINAL CORD
STOMACH, FORESTOMACH	STOMACH, GLANDULAR	THYMUS	THYROID GLAND
TONGUE	TRACHEA	TRIGEMINAL GANGLION	URINARY BLADDER
UTERUS	VAGINA	ZYMBALS GLAND	

OBSERVATIONS

KIDNEY, LEFT		CYST	CLEAR
Observation Comment: 6 X 6 X 5 mm [CYST TGLS = TGL1]			
LYMPH NODE, AXILLARY	LEFT	ENLARGED	DARK
Observation Comment: 10 X expected size [ENLARGED TGLS = TGL3]			
MAMMARY GLAND	LEFT, INGUINAL	MASS	TAN
Observation Comment: 40 X 25 X 25 mm; ulcerated; found within inguinal region on left side [MASS TGLS = TGL2]			
NO CORRELATE		TO OBSERVATION / MASS	
SPLEEN		SMALL	RED
Observation Comment: 20 X 5 X 2 mm [SMALL TGLS = TGL4]			

Study Number: C11054B-01**Test Type:** TOX**Route:** Dosing in Water**Species/Strain:** Rat/Harlan Sprague Dawley**PA14: Individual Animal Pathology Data (Chronic Animals)****Test Compound:** Sulfolane**CAS Number:** 126-33-0**Target Version:** Study Pathologist**Date Report Requested:** 04/14/2022**Time Report Requested:** 10:55:59**Lab:** Battelle

ANIMAL ID: 1500	TRT#: F1-5	DOSE: 1000 mg/L	SEX: Female	REMOVAL DAY: SD461
GENERATION: F1	SELECTION: F1 Core Animals		DISP: Euthanized Moribund	HISTO: 1703170
HISTOPATH TISSUE STATUS				
Within Normal Limits				
ADRENAL GLAND	AORTA	BONE MARROW	BONE, FEMUR	
BRAIN	CLITORAL GLAND	ESOPHAGUS	EYE	
HARDERIAN GLAND	HEART	INTESTINE, LARGE, CECUM	INTESTINE, LARGE, COLON	
INTESTINE, LARGE, RECTUM	INTESTINE, SMALL, DUODENUM	INTESTINE, SMALL, ILEUM	INTESTINE, SMALL, JEJUNUM	
LIVER	LUNG	LYMPH NODE, MANDIBULAR	LYMPH NODE, MESENTERIC	
NOSE	OVARY	PANCREAS	PARATHYROID GLAND	
PITUITARY GLAND	SALIVARY GLAND	SKIN	STOMACH, FORESTOMACH	
THYMUS	TRACHEA	URINARY BLADDER	UTERUS, CERVIX	
VAGINA				
NOT PRESENT				
LYMPH NODE				
OBSERVATIONS				
KIDNEY		CHRONIC PROGRESSIVE NEPHROPATHY	MINIMAL	
	RENAL TUBULE	CYST		
[CYST TGLS = TGL 1-8, Gross Finding = KIDNEY, LEFT, CYST, CLEAR]				
MAMMARY GLAND		ADENOMA		
	DUCT	DILATION	MARKED	
Tissue Comment: TGL 2-18, TGL 3-19				
[ADENOMA TGLS = TGL2-18, Gross Finding = MAMMARY GLAND, LEFT, INGUINAL, MASS, TAN]				
[DILATION TGLS = TGL3-19, Gross Finding = LYMPH NODE, AXILLARY, LEFT, ENLARGED, DARK]				
SPLEEN	WHITE PULP	ATROPHY	MARKED	
[ATROPHY TGLS = TGL 4-8, Gross Finding = SPLEEN, SMALL, RED]				
STOMACH, GLANDULAR		MINERAL	MILD	
THYROID GLAND	C-CELL	ADENOMA		
UTERUS	ENDOMETRIUM	METAPLASIA	SQUAMOUS, MINIMAL	
CONTRIBUTORY CAUSE OF DEATH - MAMMARY GLAND ADENOMA				
Animal Note: Hunched posture, kinked tail, pallor, and thinness noted at necropsy, but not correlated with any specific gross findings.				

Study Number: C11054B-01

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

PA14: Individual Animal Pathology Data (Chronic Animals)

Test Compound: Sulfolane

CAS Number: 126-33-0

Target Version: Study Pathologist

Date Report Requested: 04/14/2022

Time Report Requested: 10:55:59

Lab: Battelle

LEGEND

SD – Study Day; GD – Gestation Day; LD – Lactation Day; PND – Postnatal Day, adults post-weaning

For the F1 generation animals, Study Days are defined as the number of days after interim sacrifice animals were removed. On Study Day 0, animals were between 123 and 128 days of age.

**** END OF REPORT ****