

Experiment Number: 20712 - 03
Test Type: Chronic PN
Route: DOSED FEED
Species/Strain: RATS/HSD

P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)

Tris(Chloropropyl)phosphate

CAS Number: 13674-84-5

Date Report Requested: 09/18/2020

Time Report Requested: 11:04:53

First Dose M/F: 12/12/11 / 12/13/11

Lab: BAT

Final 3_Rats

NTP Study Number: C20712
Lock Date: 04/09/2018
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.2.3_002
PWG Approval Date: NONE

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Harlan Sprague Dawley RATS MALE	0 ppm males	2500 ppm males	5000 ppm males	10000 ppm males	20000 ppm males
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Disposition Summary

Animals Initially In Study	50	50	50	50	50
Early Deaths					
Moribund Sacrifice	15	8	8	5	8
Natural Death	10	8	8	8	11
Survivors					
Terminal Sacrifice	25	34	34	37	31
Animals Examined Microscopically	50	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(49)	(50)	(50)	(48)	(49)
Adenocarcinoma				1 (2%)	
Lymphoma Malignant			1 (2%)		
Intestine Large, Colon	(49)	(50)	(50)	(48)	(50)
Adenocarcinoma				1 (2%)	
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant			1 (2%)		
Intestine Large, Rectum	(50)	(50)	(50)	(50)	(50)
Intestine Small, Duodenum	(50)	(49)	(50)	(49)	(50)
Adenocarcinoma					1 (2%)
Lymphoma Malignant			1 (2%)		
Intestine Small, Ileum	(49)	(50)	(50)	(48)	(49)
Lymphoma Malignant			1 (2%)		
Intestine Small, Jejunum	(48)	(49)	(49)	(48)	(50)
Adenocarcinoma			1 (2%)		2 (4%)
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant			1 (2%)		1 (2%)
Liver	(50)	(50)	(50)	(50)	(49)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
Cholangiocarcinoma			1 (2%)		1 (2%)
Hepatocellular Adenoma	1 (2%)			5 (10%)	2 (4%)
Hepatocellular Adenoma, Multiple					1 (2%)

a - Number of animals examined microscopically at site and number of animals with lesion

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Harlan Sprague Dawley RATS MALE	0 ppm males	2500 ppm males	5000 ppm males	10000 ppm males	20000 ppm males
Hepatocellular Carcinoma			1 (2%)	3 (6%)	3 (6%)
Histiocytic Sarcoma					1 (2%)
Leukemia Mononuclear	1 (2%)	2 (4%)	2 (4%)		2 (4%)
Lymphoma Malignant	2 (4%)		1 (2%)	1 (2%)	2 (4%)
Mesentery	(4)	(0)	(3)	(0)	(1)
Fibrosarcoma, Metastatic, Skeletal Muscle			1 (33%)		
Leukemia Mononuclear	1 (25%)				
Lymphoma Malignant					1 (100%)
Pancreas	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
Histiocytic Sarcoma					1 (2%)
Leukemia Mononuclear	1 (2%)	1 (2%)			
Lymphoma Malignant			1 (2%)		1 (2%)
Acinus, Adenoma	3 (6%)	2 (4%)	1 (2%)	4 (8%)	4 (8%)
Acinus, Adenoma, Multiple	6 (12%)	6 (12%)	4 (8%)	3 (6%)	2 (4%)
Salivary Glands	(50)	(50)	(50)	(50)	(49)
Lymphoma Malignant					1 (2%)
Bilateral, Histiocytic Sarcoma	1 (2%)				
Stomach, Forestomach	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant			1 (2%)		1 (2%)
Stomach, Glandular	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant			1 (2%)		

CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(50)	(50)	(50)	(50)
Heart	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear	1 (2%)	2 (4%)	1 (2%)		2 (4%)
Lymphoma Malignant	1 (2%)				1 (2%)
Schwannoma Malignant				1 (2%)	1 (2%)

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Epicardium, Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
ENDOCRINE SYSTEM					
Adrenal Cortex	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
Adenoma		1 (2%)		1 (2%)	
Leukemia Mononuclear	1 (2%)	2 (4%)	1 (2%)		1 (2%)
Lymphoma Malignant					1 (2%)
Adrenal Medulla	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear			1 (2%)		
Pheochromocytoma Benign	6 (12%)	9 (18%)	7 (14%)	4 (8%)	
Pheochromocytoma Malignant		1 (2%)	1 (2%)	1 (2%)	
Bilateral, Pheochromocytoma Benign				1 (2%)	
Islets, Pancreatic	(50)	(50)	(50)	(50)	(50)
Adenoma	4 (8%)	9 (18%)	7 (14%)	6 (12%)	3 (6%)
Adenoma, Multiple		2 (4%)			1 (2%)
Lymphoma Malignant					1 (2%)
Parathyroid Gland	(49)	(46)	(46)	(44)	(45)
Adenoma					1 (2%)
Carcinoma		1 (2%)			
Lymphoma Malignant					1 (2%)
Pituitary Gland	(50)	(50)	(50)	(50)	(49)
Leukemia Mononuclear			1 (2%)		
Lymphoma Malignant				1 (2%)	1 (2%)
Pars Distalis, Adenoma	7 (14%)	14 (28%)	7 (14%)	11 (22%)	9 (18%)
Pars Distalis, Meningioma Malignant, Metastatic, Brain				1 (2%)	
Thyroid Gland	(50)	(50)	(50)	(50)	(49)
Lymphoma Malignant					1 (2%)
Bilateral, Histiocytic Sarcoma	1 (2%)				
Bilateral, C-cell, Adenoma	1 (2%)	2 (4%)			
C-cell, Adenoma	8 (16%)	4 (8%)	10 (20%)	9 (18%)	11 (22%)
C-cell, Adenoma, Multiple				1 (2%)	1 (2%)

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C-cell, Carcinoma		2 (4%)	1 (2%)		1 (2%)

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Coagulating Gland	(2)	(1)	(0)	(0)	(0)
Epididymis	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant	1 (2%)				
Mesothelioma Malignant	1 (2%)	1 (2%)			
Penis	(1)	(0)	(0)	(0)	(0)
Preputial Gland	(50)	(50)	(50)	(50)	(50)
Adenoma, Squamous					1 (2%)
Squamous Cell Carcinoma	1 (2%)				
Prostate	(50)	(50)	(50)	(50)	(50)
Histiocytic Sarcoma	1 (2%)				
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant					1 (2%)
Seminal Vesicle	(50)	(50)	(50)	(50)	(50)
Histiocytic Sarcoma	1 (2%)				
Leukemia Mononuclear	1 (2%)				
Neural Crest Tumor				1 (2%)	
Testis	(50)	(50)	(50)	(50)	(50)
Mesothelioma Malignant	1 (2%)	1 (2%)			
Interstitial Cell, Adenoma		3 (6%)		3 (6%)	3 (6%)

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear	1 (2%)	1 (2%)			
Lymphoma Malignant	1 (2%)			1 (2%)	2 (4%)

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Lymph Node	(2)	(4)	(2)	(1)	(4)
Inguinal, Histiocytic Sarcoma					1 (25%)
Lumbar, Lymphoma Malignant				1 (100%)	
Mediastinal, Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (25%)
Mediastinal, Leukemia Mononuclear	1 (50%)	2 (50%)			
Mediastinal, Lymphoma Malignant	1 (50%)			1 (100%)	2 (50%)
Pancreatic, Leukemia Mononuclear		1 (25%)	1 (50%)		
Pancreatic, Lymphoma Malignant				1 (100%)	1 (25%)
Renal, Lymphoma Malignant					1 (25%)
Lymph Node, Mandibular	(50)	(50)	(49)	(50)	(50)
Carcinoma, Metastatic, Thyroid Gland					1 (2%)
Histiocytic Sarcoma	1 (2%)				
Leukemia Mononuclear	1 (2%)	1 (2%)			
Lymphoma Malignant	1 (2%)		1 (2%)	1 (2%)	2 (4%)
Lymph Node, Mesenteric	(50)	(49)	(49)	(49)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
Leukemia Mononuclear	1 (2%)	1 (2%)	1 (2%)		
Lymphoma Malignant	2 (4%)		1 (2%)		3 (6%)
Spleen	(50)	(50)	(50)	(50)	(49)
Leukemia Mononuclear	1 (2%)	2 (4%)	2 (4%)		2 (4%)
Lymphoma Malignant	1 (2%)		1 (2%)	1 (2%)	1 (2%)
Capsule, Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
Thymus	(49)	(45)	(47)	(50)	(48)
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant	1 (2%)	1 (2%)	1 (2%)	1 (2%)	2 (4%)

INTEGUMENTARY SYSTEM

Mammary Gland	(45)	(50)	(50)	(50)	(49)
Fibroadenoma	2 (4%)	1 (2%)	2 (4%)	1 (2%)	
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant					1 (2%)
Skin	(50)	(50)	(50)	(50)	(50)

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Basal Cell Adenoma			1 (2%)	1 (2%)	
Keratoacanthoma	2 (4%)	2 (4%)	1 (2%)	1 (2%)	1 (2%)
Lymphoma Malignant					1 (2%)
Sarcoma					1 (2%)
Squamous Cell Papilloma	1 (2%)	2 (4%)			
Pinna, Neural Crest Tumor					1 (2%)
Subcutaneous Tissue, Fibroma	4 (8%)	3 (6%)		1 (2%)	3 (6%)
Subcutaneous Tissue, Fibrosarcoma				1 (2%)	
Subcutaneous Tissue, Histiocytic Sarcoma					1 (2%)
Subcutaneous Tissue, Sarcoma					1 (2%)
Subcutaneous Tissue, Schwannoma Malignant		1 (2%)			

MUSCULOSKELETAL SYSTEM

Bone	(50)	(50)	(50)	(50)	(50)
Skeletal Muscle	(3)	(0)	(3)	(1)	(4)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (25%)
Leukemia Mononuclear					1 (25%)
Lymphoma Malignant			1 (33%)		
Neural Crest Tumor, Metastatic, Seminal Vesicle				1 (100%)	
Sarcoma			1 (33%)		1 (25%)

NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)	(50)
Glioma Benign		1 (2%)			
Glioma Malignant			1 (2%)		1 (2%)
Granular Cell Tumor Benign	1 (2%)	2 (4%)			
Granular Cell Tumor Malignant				1 (2%)	
Histiocytic Sarcoma	1 (2%)				
Leukemia Mononuclear		2 (4%)	1 (2%)		
Lymphoma Malignant			1 (2%)		2 (4%)
Meningioma Malignant	1 (2%)			1 (2%)	

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Cranial Nerve, Schwannoma Malignant				1 (2%)	
Brain Trigeminal Ganglion	(1)	(0)	(0)	(0)	(0)
Histiocytic Sarcoma	1 (100%)				
Nerve Trigeminal	(2)	(2)	(1)	(1)	(1)
Peripheral Nerve	(3)	(2)	(4)	(1)	(4)
Lymphoma Malignant			1 (25%)		
Trigeminal, Leukemia Mononuclear	1 (33%)				
Trigeminal, Lymphoma Malignant				1 (100%)	1 (25%)
Spinal Cord	(2)	(2)	(2)	(1)	(1)
Dura, Lymphoma Malignant				1 (100%)	
RESPIRATORY SYSTEM					
Lung	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Intestine Small, Jejunum					1 (2%)
Alveolar/Bronchiolar Adenoma				1 (2%)	1 (2%)
Carcinoma	1 (2%)				
Carcinoma, Metastatic, Thyroid Gland		1 (2%)			
Hepatocellular Carcinoma, Metastatic, Liver				1 (2%)	
Histiocytic Sarcoma	1 (2%)				1 (2%)
Leukemia Mononuclear	1 (2%)	2 (4%)	1 (2%)		2 (4%)
Lymphoma Malignant			1 (2%)	1 (2%)	1 (2%)
Pheochromocytoma Malignant, Metastatic, Adrenal Medulla		1 (2%)	1 (2%)		
Mediastinum, Carcinoma, Metastatic, Thyroid Gland			1 (2%)		
Nose	(50)	(50)	(50)	(50)	(50)
Adenoma					1 (2%)
Histiocytic Sarcoma	1 (2%)				
Leukemia Mononuclear	1 (2%)				
Lymphoma Malignant					2 (4%)
Trachea	(50)	(50)	(50)	(50)	(50)

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Harlan Sprague Dawley RATS MALE	0 ppm males	2500 ppm males	5000 ppm males	10000 ppm males	20000 ppm males
SPECIAL SENSES SYSTEM					
Eye	(50)	(50)	(50)	(50)	(50)
Lymphoma Malignant				1 (2%)	1 (2%)
Meningioma Malignant, Metastatic, Brain				1 (2%)	
Harderian Gland	(50)	(50)	(50)	(50)	(50)
Histiocytic Sarcoma	1 (2%)				
Lymphoma Malignant					1 (2%)
Schwannoma Malignant, Metastatic, Nerve Trigeminal				1 (2%)	
URINARY SYSTEM					
Kidney	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear	1 (2%)	1 (2%)			
Lipoma		1 (2%)			1 (2%)
Liposarcoma	1 (2%)				
Lymphoma Malignant			1 (2%)		1 (2%)
Renal Tubule, Carcinoma			1 (2%)		
Urothelium, Carcinoma			1 (2%)		
Ureter	(0)	(0)	(0)	(1)	(0)
Urinary Bladder	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear		1 (2%)			
SYSTEMIC LESIONS					
Multiple Organ	*(50)	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma	1 (2%)				1 (2%)
Leukemia Mononuclear	1 (2%)	2 (4%)	2 (4%)		2 (4%)
Lymphoma Malignant	2 (4%)	1 (2%)	1 (2%)	1 (2%)	3 (6%)
Mesothelioma Malignant	1 (2%)	1 (2%)			

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* Number of animals with any tissue examined microscopically

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Tumor Summary for Males

Total Animals with Primary Neoplasms (b)	30	36	34	43	40
Total Primary Neoplasms	55	73	52	66	66
Total Animals with Benign Neoplasms	25	31	28	37	29
Total Benign Neoplasms	46	64	40	53	46
Total Animals with Malignant Neoplasms	9	9	12	10	19
Total Malignant Neoplasms	9	9	12	12	19
Total Animals with Metastatic Neoplasms		2	3	4	2
Total Metastatic Neoplasms		2	3	5	11
Total Animals with Malignant Neoplasms Uncertain Primary Site					
Total Animals with Neoplasms Uncertain- Benign or Malignant				1	1
Total Uncertain Neoplasms				1	1

*** END OF MALE ***

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b - Primary tumors: all tumors except metastatic tumors

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Disposition Summary

Animals Initially In Study	50	50	50	50	50
Early Deaths					
Moribund Sacrifice	15	10	8	7	6
Natural Death	13	8	8	8	11
Survivors					
Moribund Sacrifice		1			
Natural Death			1	1	
Terminal Sacrifice	22	31	33	34	33
Animals Examined Microscopically	50	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(49)	(49)	(49)	(48)	(49)
Leukemia Mononuclear				1 (2%)	
Liposarcoma	1 (2%)				
Intestine Large, Colon	(49)	(50)	(49)	(49)	(50)
Leukemia Mononuclear				1 (2%)	
Intestine Large, Rectum	(50)	(50)	(50)	(49)	(50)
Intestine Small, Duodenum	(49)	(49)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Uterus					1 (2%)
Intestine Small, Ileum	(49)	(49)	(49)	(48)	(50)
Intestine Small, Jejunum	(49)	(49)	(49)	(49)	(50)
Leukemia Mononuclear				3 (6%)	
Schwannoma Malignant			1 (2%)		
Liver	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas		1 (2%)			
Adenocarcinoma, Metastatic, Uterus				1 (2%)	2 (4%)
Cholangioma	1 (2%)		1 (2%)		2 (4%)
Cholangioma, Multiple					1 (2%)
Hepatocellular Adenoma	1 (2%)	3 (6%)		3 (6%)	1 (2%)
Hepatocellular Adenoma, Multiple					2 (4%)
Leukemia Mononuclear	2 (4%)			4 (8%)	
Lymphoma Malignant					1 (2%)

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Squamous Cell Carcinoma, Metastatic, Uterus					1 (2%)
Mesentery	(3)	(3)	(1)	(1)	(4)
Adenocarcinoma, Metastatic, Pancreas		1 (33%)			
Adenocarcinoma, Metastatic, Uterus	1 (33%)	1 (33%)		1 (100%)	2 (50%)
Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (25%)
Squamous Cell Carcinoma, Metastatic, Uterus					1 (25%)
Pancreas	(49)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)	1 (2%)		1 (2%)	2 (4%)
Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (2%)
Leukemia Mononuclear	1 (2%)			1 (2%)	
Squamous Cell Carcinoma, Metastatic, Uterus					1 (2%)
Acinus, Adenocarcinoma		1 (2%)			
Acinus, Adenoma				1 (2%)	
Duct, Adenocarcinoma, Metastatic, Uterus			1 (2%)		
Salivary Glands	(50)	(50)	(49)	(50)	(49)
Stomach, Forestomach	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas		1 (2%)			
Adenocarcinoma, Metastatic, Uterus					2 (4%)
Leukemia Mononuclear				1 (2%)	
Stomach, Glandular	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas		1 (2%)			
Adenocarcinoma, Metastatic, Uterus			1 (2%)	1 (2%)	
Leukemia Mononuclear				1 (2%)	
CARDIOVASCULAR SYSTEM					
Blood Vessel	(50)	(50)	(50)	(50)	(50)
Heart	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear	1 (2%)			2 (4%)	
Schwannoma Malignant			1 (2%)	1 (2%)	1 (2%)
ENDOCRINE SYSTEM					

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Experiment Number: 20712 - 03

Test Type: Chronic PN

Route: DOSED FEED

Species/Strain: RATS/HSD

P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)

Tris(Chloropropyl)phosphate

CAS Number: 13674-84-5

Date Report Requested: 09/18/2020

Time Report Requested: 11:04:53

First Dose M/F: 12/12/11 / 12/13/11

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0 ppm females	2500 ppm females	5000 ppm females	10000 ppm female	20000 ppm female
Adrenal Cortex	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)		1 (2%)	1 (2%)	1 (2%)
Adenoma				2 (4%)	2 (4%)
Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (2%)
Leukemia Mononuclear	2 (4%)			4 (8%)	
Adrenal Medulla	(50)	(50)	(50)	(50)	(48)
Leukemia Mononuclear	1 (2%)			2 (4%)	
Pheochromocytoma Benign		1 (2%)		1 (2%)	1 (2%)
Islets, Pancreatic	(49)	(50)	(50)	(50)	(50)
Adenoma		1 (2%)	1 (2%)		
Parathyroid Gland	(44)	(39)	(45)	(44)	(46)
Pituitary Gland	(50)	(50)	(50)	(50)	(49)
Leukemia Mononuclear	1 (2%)			3 (6%)	
Pars Distalis, Adenoma	11 (22%)	11 (22%)	10 (20%)	10 (20%)	10 (20%)
Pars Distalis, Carcinoma		1 (2%)			
Thyroid Gland	(50)	(50)	(50)	(50)	(49)
Leukemia Mononuclear				1 (2%)	
Bilateral, C-cell, Adenoma	1 (2%)	2 (4%)	2 (4%)		1 (2%)
C-cell, Adenoma	9 (18%)	10 (20%)	8 (16%)	9 (18%)	11 (22%)
C-cell, Carcinoma	2 (4%)		2 (4%)		1 (2%)
Follicular Cell, Adenoma	1 (2%)				

GENERAL BODY SYSTEM

Peritoneum	(0)	(1)	(0)	(0)	(0)
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GENITAL SYSTEM

Clitoral Gland	(46)	(49)	(50)	(47)	(49)
Squamous Cell Papilloma		1 (2%)			
Duct, Squamous Cell Papilloma					1 (2%)
Ovary	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Pancreas		1 (2%)			
Adenocarcinoma, Metastatic, Uterus	1 (2%)			1 (2%)	2 (4%)

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Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0 ppm females	2500 ppm females	5000 ppm females	10000 ppm female	20000 ppm female
Granulosa Cell Tumor Benign					2 (4%)
Granulosa Cell Tumor Malignant		1 (2%)	3 (6%)		
Granulosa-Theca Tumor Benign	1 (2%)				
Granulosa-Theca Tumor Malignant					1 (2%)
Leukemia Mononuclear				4 (8%)	
Sarcoma			1 (2%)		
Oviduct	(1)	(0)	(0)	(1)	(0)
Carcinoma				1 (100%)	
Uterus	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Pancreas		1 (2%)			
Hemangioma	1 (2%)				
Leukemia Mononuclear				3 (6%)	
Neural Crest Tumor		1 (2%)			
Polyp Stromal	4 (8%)	13 (26%)	4 (8%)	5 (10%)	12 (24%)
Polyp Stromal, Cystic		1 (2%)	1 (2%)		
Polyp Stromal, Multiple	1 (2%)	1 (2%)	1 (2%)	2 (4%)	1 (2%)
Sarcoma		1 (2%)			
Squamous Cell Carcinoma				1 (2%)	1 (2%)
Squamous Cell Papilloma					1 (2%)
Cervix, Adenocarcinoma		1 (2%)			
Cervix, Neural Crest Tumor		1 (2%)			
Endometrium, Adenocarcinoma	3 (6%)	3 (6%)	6 (12%)	8 (16%)	8 (16%)
Endometrium, Adenoma				1 (2%)	1 (2%)
Endometrium, Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (2%)
Vagina	(50)	(49)	(48)	(44)	(48)
Adenocarcinoma, Metastatic, Uterus					1 (2%)
Sarcoma	1 (2%)				
Squamous Cell Carcinoma, Metastatic, Uterus					1 (2%)
HEMATOPOIETIC SYSTEM					
Bone Marrow	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear	1 (2%)			1 (2%)	
Lymph Node	(8)	(4)	(3)	(5)	(7)

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Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0 ppm females	2500 ppm females	5000 ppm females	10000 ppm female	20000 ppm female
Adenocarcinoma, Metastatic, Uterus					1 (14%)
Leukemia Mononuclear				1 (20%)	
Deep Cervical, Carcinoma, Metastatic, Thyroid Gland			1 (33%)		
Inguinal, Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (14%)
Lumbar, Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (14%)
Lumbar, Leukemia Mononuclear				2 (40%)	
Mediastinal, Adenocarcinoma, Metastatic, Uterus	1 (13%)				1 (14%)
Mediastinal, Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (14%)
Mediastinal, Leukemia Mononuclear	1 (13%)			2 (40%)	
Mediastinal, Lymphoma Malignant					1 (14%)
Mediastinal, Squamous Cell Carcinoma, Metastatic, Uterus					1 (14%)
Pancreatic, Adenocarcinoma, Metastatic, Pancreas		1 (25%)			
Pancreatic, Adenocarcinoma, Metastatic, Uterus		1 (25%)			1 (14%)
Pancreatic, Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (14%)
Pancreatic, Leukemia Mononuclear				1 (20%)	
Renal, Adenocarcinoma, Metastatic, Uterus	1 (13%)			1 (20%)	1 (14%)
Renal, Granulosa-Theca Tumor Malignant, Metastatic, Ovary					1 (14%)
Renal, Leukemia Mononuclear				1 (20%)	
Lymph Node, Mandibular Hemangioma	(50)	(50)	(49)	(50)	(49)
Leukemia Mononuclear	1 (2%)			3 (6%)	1 (2%)
Lymphoma Malignant					1 (2%)
Lymph Node, Mesenteric	(49)	(49)	(49)	(50)	(49)
Adenocarcinoma, Metastatic, Uterus	1 (2%)				2 (4%)
Leukemia Mononuclear	1 (2%)			3 (6%)	
Lymphoma Malignant					1 (2%)
Spleen	(49)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Pancreas		1 (2%)			

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Date Report Requested: 09/18/2020

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First Dose M/F: 12/12/11 / 12/13/11

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0 ppm females	2500 ppm females	5000 ppm females	10000 ppm female	20000 ppm female
Adenocarcinoma, Metastatic, Uterus	1 (2%)			1 (2%)	
Leukemia Mononuclear	2 (4%)			4 (8%)	
Lymphoma Malignant					1 (2%)
Thymus	(50)	(48)	(49)	(48)	(48)
Adenocarcinoma, Metastatic, Uterus				1 (2%)	
Leukemia Mononuclear	1 (2%)			3 (6%)	
Squamous Cell Carcinoma		1 (2%)			
Thymoma Malignant				1 (2%)	

INTEGUMENTARY SYSTEM

Mammary Gland	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma	1 (2%)	3 (6%)	3 (6%)	4 (8%)	1 (2%)
Adenoma		1 (2%)			1 (2%)
Fibroadenoma	22 (44%)	27 (54%)	25 (50%)	14 (28%)	19 (38%)
Fibroadenoma, Multiple	7 (14%)	1 (2%)	4 (8%)	6 (12%)	4 (8%)
Leukemia Mononuclear				2 (4%)	
Duct, Adenocarcinoma		1 (2%)			
Skin	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)	
Pinna, Neural Crest Tumor			1 (2%)		
Subcutaneous Tissue, Fibroma	1 (2%)		3 (6%)	1 (2%)	2 (4%)
Subcutaneous Tissue, Fibrosarcoma	1 (2%)				
Subcutaneous Tissue, Sarcoma			1 (2%)	1 (2%)	

MUSCULOSKELETAL SYSTEM

Bone	(50)	(50)	(50)	(50)	(50)
Osteosarcoma					1 (2%)
Skeletal Muscle	(1)	(1)	(0)	(1)	(2)
Adenocarcinoma, Metastatic, Pancreas		1 (100%)			
Adenocarcinoma, Metastatic, Uterus	1 (100%)			1 (100%)	2 (100%)

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Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0 ppm females	2500 ppm females	5000 ppm females	10000 ppm female	20000 ppm female
NERVOUS SYSTEM					
Brain	(50)	(50)	(50)	(50)	(49)
Leukemia Mononuclear	1 (2%)			2 (4%)	
Oligodendroglioma Malignant					1 (2%)
Peripheral Nerve	(0)	(0)	(0)	(1)	(0)
Leukemia Mononuclear				1 (100%)	
RESPIRATORY SYSTEM					
Lung	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Mammary Gland		1 (2%)		1 (2%)	1 (2%)
Adenocarcinoma, Metastatic, Pancreas		1 (2%)			
Adenocarcinoma, Metastatic, Uterus	1 (2%)		1 (2%)	1 (2%)	2 (4%)
Alveolar/Bronchiolar Carcinoma, Multiple			1 (2%)		
Granulosa Cell Tumor Malignant, Metastatic, Ovary		1 (2%)			
Leukemia Mononuclear	2 (4%)			3 (6%)	
Squamous Cell Carcinoma, Metastatic, Uterus					1 (2%)
Nose	(49)	(50)	(50)	(50)	(50)
Lymphoma Malignant					1 (2%)
Trachea	(50)	(50)	(50)	(50)	(50)
SPECIAL SENSES SYSTEM					
Eye	(50)	(50)	(49)	(50)	(49)
Leukemia Mononuclear	1 (2%)			2 (4%)	
Harderian Gland	(50)	(50)	(49)	(50)	(50)
Leukemia Mononuclear				1 (2%)	
URINARY SYSTEM					
Kidney	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)				2 (4%)

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Experiment Number: 20712 - 03

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First Dose M/F: 12/12/11 / 12/13/11

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0 ppm females	2500 ppm females	5000 ppm females	10000 ppm female	20000 ppm female
Histiocytic Sarcoma					1 (2%)
Leukemia Mononuclear				3 (6%)	
Squamous Cell Carcinoma, Metastatic, Uterus					1 (2%)
Renal Tubule, Adenoma					2 (4%)
Urinary Bladder	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)	1 (2%)	1 (2%)	1 (2%)	1 (2%)
<hr/>					
SYSTEMIC LESIONS					
Multiple Organ	*(50)	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma					1 (2%)
Leukemia Mononuclear	2 (4%)			4 (8%)	
Lymphoma Malignant					1 (2%)

a - Number of animals examined microscopically at site and number of animals with lesion

* Number of animals with any tissue examined microscopically

Experiment Number: 20712 - 03

Test Type: Chronic PN

Route: DOSED FEED

Species/Strain: RATS/HSD

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Harlan Sprague Dawley RATS FEMALE	0 ppm females	2500 ppm females	5000 ppm females	10000 ppm female	20000 ppm female
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Tumor Summary for Females

Total Animals with Primary Neoplasms (b)	46	47	44	42	47
Total Primary Neoplasms	72	88	80	76	95
Total Animals with Benign Neoplasms	41	41	39	35	41
Total Benign Neoplasms	61	73	60	55	78
Total Animals with Malignant Neoplasms	10	13	15	20	16
Total Malignant Neoplasms	11	13	19	21	17
Total Animals with Metastatic Neoplasms	1	4	4	3	7
Total Metastatic Neoplasms	12	16	6	13	43
Total Animals with Malignant Neoplasms Uncertain Primary Site					
Total Animals with Neoplasms Uncertain- Benign or Malignant		2	1		
Total Uncertain Neoplasms		2	1		

*** END OF REPORT ***

a - Number of animals examined microscopically at site and number of animals with lesion

b - Primary tumors: all tumors except metastatic tumors