

Study Number: C20302B-03
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology
Test Compound: alpha-Pinene
CAS Number: 80-56-8

Date Report Requested: 04/05/2023
Time Report Requested: 15:47:13
Lab: Battelle

Study Number: C20302B-03
Study Sex: Both
PWG Approval Date: See web page for date of PWG Approval
Version: v1.5.0
Stat Version: 2021.06.29S

Male: Fertility Males				
	Treatment Groups (ppm)			
	0	100	200	400
Disposition Summary				
Animals Initially In Study	25	25	25	25
Censored				
Early Deaths				
Survivors				
Scheduled Sacrifice, Terminal	25	25	25	25
Number of Animals Examined	25	25	25	25
ALIMENTARY SYSTEM				
None				
CARDIOVASCULAR SYSTEM				
None				
ENDOCRINE SYSTEM				
None				
GENERAL BODY SYSTEM				
None				
GENITAL SYSTEM				
EPIDIDYMIS, LEFT	(25)	(25)	(25)	(25)
SMALL				1 (4.0%)
EPIDIDYMIS, RIGHT	(25)	(25)	(25)	(25)
ENLARGED; TAN				1 (4.0%)
SMALL				1 (4.0%)
TESTIS, LEFT	(25)	(25)	(25)	(25)
SMALL				1 (4.0%)
TESTIS, RIGHT	(25)	(25)	(25)	(25)
SMALL				1 (4.0%)

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Male: Fertility Males				
Treatment Groups (ppm)				
	0	100	200	400
HEMATOLYMPHOID SYSTEM				
None				
INTEGUMENTARY SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
None				
NERVOUS SYSTEM				
None				
RESPIRATORY SYSTEM				
None				
SPECIAL SENSES SYSTEM				
None				
URINARY SYSTEM				
None				

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Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
Disposition Summary				
Animals Initially In Study	50	50	50	50
Censored				
Early Deaths				
Found Dead	18	18	18	21
Sacrificed, Moribund	10	13	11	15
Survivors				
Scheduled Sacrifice, Terminal	22	19	21	14
Number of Animals Examined	50	50	50	50

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Male: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
ALIMENTARY SYSTEM				
INTESTINE, LARGE, CECUM	(50)	(50)	(50)	(50)
MASS; RED		1 (2.0%)		
THICK; PALE		1 (2.0%)		
INTESTINE, SMALL, DUODENUM	(50)	(50)	(50)	(50)
DIVERTICULUM; RED				1 (2.0%)
INTESTINE, SMALL, ILEUM	(50)	(50)	(50)	(50)
THICK; PALE		1 (2.0%)		
INTESTINE, SMALL, JEJUNUM	(50)	(50)	(50)	(50)
PEYERS PATCH; ENLARGED; TAN	1 (2.0%)			
ENLARGED; TAN			1 (2.0%)	
MASS; TAN		1 (2.0%)		
LIVER	(50)	(50)	(50)	(50)
ADHESION				1 (2.0%)
LOBE, LEFT; CYST; CLEAR	2 (4.0%)		1 (2.0%)	
LOBE, LEFT; CYST; CLEAR, TWO			1 (2.0%)	
RIGHT; CYST; CLEAR			1 (2.0%)	
LOBE, MEDIAN; DEFORMITY; TAN	1 (2.0%)		1 (2.0%)	1 (2.0%)
DEFORMITY; DARK	1 (2.0%)			
DEFORMITY; MOTTLED			1 (2.0%)	1 (2.0%)
BILE DUCT; DILATION; CLEAR			1 (2.0%)	
BILE DUCT; DILATION			1 (2.0%)	
ENLARGED; DARK			1 (2.0%)	
ENLARGED			1 (2.0%)	
LOBE, LEFT; FOCUS; DARK				1 (2.0%)
LOBE, LEFT; FOCUS; PALE		1 (2.0%)		
LOBE, LEFT; FOCUS; PALE, THREE				1 (2.0%)
LOBE, MEDIAN; FOCUS; TAN			1 (2.0%)	

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Lab: Battelle

Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
LOBE, MEDIAN; FOCUS; WHITE		1 (2.0%)		1 (2.0%)
FOCUS; WHITE				1 (2.0%)
BILE DUCT; MASS; TAN			1 (2.0%)	
LOBE, LEFT; MASS; PALE				1 (2.0%)
LOBE, LEFT; MASS				1 (2.0%)
RIGHT; MASS; TAN				1 (2.0%)
RIGHT LOBE; MASS; DARK			1 (2.0%)	
LOBE, LEFT; NODULE; YELLOW		1 (2.0%)		
LOBE, LEFT; NODULE				1 (2.0%)
LOBE, MEDIAN; NODULE; TAN	1 (2.0%)			
LOBE, MEDIAN; NODULE; WHITE		1 (2.0%)		
NODULE; DARK				1 (2.0%)
NODULE				1 (2.0%)
MESENTERY	(50)	(50)	(50)	(50)
MASS; MOTTLED				1 (2.0%)
NODULE; DARK			1 (2.0%)	
NODULE; MOTTLED			1 (2.0%)	
ORAL CAVITY	(50)	(50)	(50)	(50)
PERFORATION; RED		1 (2.0%)		
PANCREAS	(50)	(50)	(50)	(50)
MASS; TAN		1 (2.0%)		
NODULE; TAN	1 (2.0%)			
NODULE; TAN, TWO			1 (2.0%)	
PHARYNX	(50)	(50)	(50)	(50)
MASS; TAN	1 (2.0%)			
STOMACH	(50)	(50)	(50)	(50)
MASS; WHITE		1 (2.0%)		
NODULE; TAN		1 (2.0%)		

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	Treatment Groups (ppm)			
	0	50	100	200
STOMACH, FORESTOMACH	(50)	(50)	(50)	(50)
FOCUS; GREEN			1 (2.0%)	
FOCUS; TAN			1 (2.0%)	
NODULE; TAN			1 (2.0%)	
NODULE; WHITE			1 (2.0%)	1 (2.0%)
STOMACH, GLANDULAR	(50)	(50)	(50)	(50)
DISCOLORATION; DARK		1 (2.0%)	1 (2.0%)	
NODULE; TAN			1 (2.0%)	
TONGUE	(50)	(50)	(50)	(50)
MASS; TAN	1 (2.0%)			
TOOTH	(50)	(50)	(50)	(50)
INCISOR; DEFORMITY		1 (2.0%)		
CARDIOVASCULAR SYSTEM				
AORTA	(50)	(50)	(50)	(50)
THICK; MOTTLED			1 (2.0%)	
HEART	(50)	(50)	(50)	(50)
LEFT; VENTRICLE; DILATION				1 (2.0%)
ENLARGED		1 (2.0%)		1 (2.0%)
LEFT; ATRIUM; MASS; TAN		1 (2.0%)		
RIGHT; ATRIUM; NODULE; TAN				1 (2.0%)

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Male: Core Animals

Treatment Groups (ppm)

0

50

100

200

ENDOCRINE SYSTEM

ADRENAL GLAND

(50)

(50)

(50)

(50)

LEFT; ENLARGED; DARK

1 (2.0%)

1 (2.0%)

LEFT; ENLARGED; MOTTLED

2 (4.0%)

LEFT; ENLARGED; TAN

1 (2.0%)

1 (2.0%)

LEFT; ENLARGED

1 (2.0%)

1 (2.0%)

RIGHT; ENLARGED; DARK

1 (2.0%)

RIGHT; ENLARGED; MOTTLED

1 (2.0%)

RIGHT; ENLARGED

1 (2.0%)

ENLARGED; DARK

1 (2.0%)

RIGHT; MASS; RED

1 (2.0%)

PITUITARY GLAND

(50)

(50)

(50)

(50)

ENLARGED; DARK

2 (4.0%)

2 (4.0%)

3 (6.0%)

ENLARGED; MOTTLED

1 (2.0%)

2 (4.0%)

ENLARGED; RED

0 *

2 (4.0%)

ENLARGED; TAN

1 (2.0%)

1 (2.0%)

FOCUS; DARK

1 (2.0%)

FOCUS; WHITE

1 (2.0%)

MASS; RED

1 (2.0%)

NODULE; DARK

1 (2.0%)

NODULE; RED

1 (2.0%)

NODULE; TAN

1 (2.0%)

THYROID GLAND

(50)

(50)

(50)

(50)

LEFT; ENLARGED; DARK

1 (2.0%)

RIGHT; ENLARGED; DARK

1 (2.0%)

GENERAL BODY SYSTEM

None

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Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
GENITAL SYSTEM				
EPIDIDYMIS, LEFT	(50)	(50)	(50)	(50)
SMALL; DARK				1 (2.0%)
SMALL	3 (6.0%)		1 (2.0%)	3 (6.0%)
EPIDIDYMIS, RIGHT	(50)	(50)	(50)	(50)
SMALL; DARK				1 (2.0%)
SMALL	2 (4.0%)			3 (6.0%)
PENIS	(50)	(50)	(50)	(50)
MASS; GREEN			1 (2.0%)	
PREPUTIAL GLAND	(50)	(50)	(50)	(50)
BILATERAL; ENLARGED; PALE	1 (2.0%)			
LEFT; ENLARGED; GREEN				1 (2.0%)
LEFT; NODULE; GREEN				1 (2.0%)
PROSTATE	(50)	(50)	(50)	(50)
RIGHT LOBE; DISCOLORATION; DARK		1 (2.0%)		
RIGHT; MASS; MOTTLED		1 (2.0%)		
VENTRAL; SMALL; DARK				1 (2.0%)
SEMINAL VESICLE	(50)	(50)	(50)	(50)
BILATERAL; ENLARGED	1 (2.0%)			
BILATERAL; SMALL; PALE			1 (2.0%)	
BILATERAL; SMALL	1 (2.0%)	3 (6.0%)		2 (4.0%)
RIGHT; SMALL				1 (2.0%)
SMALL		1 (2.0%)		
TESTIS, LEFT	(50)	(50)	(50)	(50)
LEFT; SMALL				1 (2.0%)
SMALL; DARK	2 (4.0%)		1 (2.0%)	1 (2.0%)
SMALL	5 (10.0%)	3 (6.0%)	2 (4.0%)	6 (12.0%)
TESTIS, RIGHT	(50)	(50)	(50)	(50)

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	Treatment Groups (ppm)			
	0	50	100	200
SMALL; BLACK		1 (2.0%)		
SMALL; DARK	1 (2.0%)			1 (2.0%)
SMALL	4 (8.0%)	2 (4.0%)	3 (6.0%)	7 (14.0%)

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Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
HEMATOLYMPHOID SYSTEM				
LYMPH NODE	(50)	(50)	(50)	(50)
LUMBAR; ENLARGED; FOUR, TAN			1 (2.0%)	
LUMBAR; ENLARGED; PALE, TWO				1 (2.0%)
RENAL; ENLARGED; CLEAR, TWO		1 (2.0%)		
RENAL; ENLARGED; TAN, THREE			1 (2.0%)	
BILATERAL; POPLITEAL; NODULE; GREEN, TWO				1 (2.0%)
LYMPH NODE, MANDIBULAR	(50)	(50)	(50)	(50)
CYST; CLEAR			1 (2.0%)	
LEFT; ENLARGED; TAN	1 (2.0%)			
RIGHT; ENLARGED; DARK			1 (2.0%)	
ENLARGED; RED, TWO			1 (2.0%)	
LYMPH NODE, MEDIASTINAL	(50)	(50)	(50)	(50)
ENLARGED; DARK				1 (2.0%)
ENLARGED; RED			1 (2.0%)	
ENLARGED; TAN			1 (2.0%)	
ENLARGED; TAN, TWO			1 (2.0%)	
LYMPH NODE, MESENTERIC	(50)	(50)	(50)	(50)
ENLARGED; DARK	1 (2.0%)			
ENLARGED; FIVE, TAN			1 (2.0%)	
ENLARGED; PALE	1 (2.0%)			
ENLARGED		2 (4.0%)		
SPLEEN	(50)	(50)	(50)	(50)
DEFORMITY; RED		1 (2.0%)		
ENLARGED; DARK	2 (4.0%)			1 (2.0%)
ENLARGED; MOTTLED			2 (4.0%)	
ENLARGED; RED		1 (2.0%)		
ENLARGED	1 (2.0%)		1 (2.0%)	

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	0	50	100	200
MASS; MOTTLED			2 (4.0%)	
SMALL		1 (2.0%)		
THYMUS	(50)	(50)	(50)	(50)
ENLARGED; DARK	1 (2.0%)			
ENLARGED; MOTTLED			1 (2.0%)	
ENLARGED; TAN			1 (2.0%)	
SMALL; TAN				1 (2.0%)
SMALL	1 (2.0%)	1 (2.0%)	1 (2.0%)	

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Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
INTEGUMENTARY SYSTEM				
MAMMARY GLAND	(50)	(50)	(50)	(50)
AXILLARY; LEFT; MASS; TAN				1 (2.0%)
LEFT; INGUINAL; MASS; MOTTLED				1 (2.0%)
LEFT; THORACIC; MASS; MOTTLED				1 (2.0%)
RIGHT; INGUINAL; MASS; DARK				1 (2.0%)
RIGHT; THORACIC; MASS; TAN				1 (2.0%)
RIGHT; THORACIC; MASS; WHITE	1 (2.0%)			
VENTRAL; THORACIC; MASS; TAN		1 (2.0%)		
SKIN	(50)	(50)	(50)	(50)
RIGHT; ABRASION; PALE				1 (2.0%)
DORSAL; CRUST; DARK			1 (2.0%)	
DORSAL; CRUST; MOTTLED			1 (2.0%)	
DORSAL; CRUST; RED		1 (2.0%)		1 (2.0%)
LEFT; ABDOMINAL; CRUST; DARK			1 (2.0%)	
LEFT; INGUINAL; CRUST; RED				1 (2.0%)
LEFT; CRUST; DARK				1 (2.0%)
RIGHT; DORSAL; CRUST; BROWN		1 (2.0%)		
RIGHT; INGUINAL; CRUST; GREEN	1 (2.0%)			
ABDOMINAL; MASS; MOTTLED	1 (2.0%)			1 (2.0%)
DORSAL; RIGHT; MASS; MOTTLED		1 (2.0%)		
DORSAL; MASS; DARK		1 (2.0%)		
DORSAL; MASS; TAN		1 (2.0%)		
HEAD; MASS; TAN		1 (2.0%)		
LEFT; ABDOMINAL; MASS; TAN		1 (2.0%)	1 (2.0%)	
LEFT; AXILLARY; MASS; MOTTLED	0 *			2 (4.0%)
LEFT; AXILLARY; MASS; RED				1 (2.0%)
LEFT; AXILLARY; MASS; TAN		1 (2.0%)		1 (2.0%)

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Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
LEFT; FORELIMB; MASS; RED			1 (2.0%)	
LEFT; INGUINAL; MASS; TAN			1 (2.0%)	
LEFT; PINNA; MASS; MOTTLED		1 (2.0%)		
LEFT; THORACIC; MASS; MOTTLED	1 (2.0%)	1 (2.0%)		
LEFT; THORACIC; MASS; TAN	1 (2.0%)	1 (2.0%)		1 (2.0%)
LEFT; MASS; RED		1 (2.0%)		
RIGHT; ABDOMINAL; MASS; MOTTLED		1 (2.0%)	1 (2.0%)	1 (2.0%)
RIGHT; ABDOMINAL; MASS; TAN		1 (2.0%)		
RIGHT; CERVICAL; MASS; TAN			1 (2.0%)	
RIGHT; DORSAL; MASS; WHITE		1 (2.0%)		
RIGHT; THORACIC; MASS; TAN	2 (4.0%)			
RIGHT; MASS; GREEN			1 (2.0%)	
RIGHT; MASS; TAN		2 (4.0%)		
THORACIC; MASS; TAN			1 (2.0%)	
VENTRAL; MASS; TAN			1 (2.0%)	
MASS; MOTTLED	1 (2.0%)		1 (2.0%)	
RIGHT; ABDOMINAL; NODULE; TAN				1 (2.0%)
RIGHT; HINDLIMB; THICK; RED				1 (2.0%)
MUSCULOSKELETAL SYSTEM				
BONE	(50)	(50)	(50)	(50)
LEFT; METATARSUS; ENLARGED		1 (2.0%)		
CALVARIUM; MASS; MOTTLED				1 (2.0%)
CRANIUM; NODULE; RED	1 (2.0%)			
SKELETAL MUSCLE	(50)	(50)	(50)	(50)
LEFT; HINDLIMB; MASS; MOTTLED		1 (2.0%)		
LEFT; HINDLIMB; MASS; TAN		1 (2.0%)		

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	0	50	100	200
NERVOUS SYSTEM				
BRAIN	(50)	(50)	(50)	(50)
LEFT; CEREBRUM; MASS; WHITE	1 (2.0%)			
RIGHT; OLFACTORY BULB; NODULE; TAN				1 (2.0%)

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	Treatment Groups (ppm)			
	0	50	100	200
RESPIRATORY SYSTEM				
LUNG	(50)	(50)	(50)	(50)
DISCOLORATION; DARK		1 (2.0%)	1 (2.0%)	
DISCOLORATION; DIFFUSE, MOTTLED	1 (2.0%)			
DISCOLORATION; MOTTLED	0 *			3 (6.0%)
DISCOLORATION; RED		1 (2.0%)		
ACCESSORY LOBE; FOCUS; FOUR, WHITE				1 (2.0%)
ACCESSORY LOBE; FOCUS; WHITE	1 (2.0%)		1 (2.0%)	
LEFT; FOCUS; DARK				1 (2.0%)
LEFT; FOCUS; WHITE	3 (6.0%)			
LOBE, LEFT; FOCUS; THREE, WHITE	0 *			2 (4.0%)
LOBE, LEFT; FOCUS; TWO, WHITE		1 (2.0%)		
LOBE, LEFT; FOCUS; WHITE	2 (4.0%)		2 (4.0%)	1 (2.0%)
LOBE, MIDDLE, RIGHT; FOCUS; WHITE			1 (2.0%)	
RIGHT LOBE; FOCUS; CAUDAL, WHITE	4 (8.0%)	1 (2.0%)	3 (6.0%)	2 (4.0%)
RIGHT LOBE; FOCUS; WHITE				1 (2.0%)
FOCUS; DARK	1 (2.0%)			1 (2.0%)
FOCUS; MOTTLED				1 (2.0%)
FOCUS; RED				1 (2.0%)
FOCUS; TAN				1 (2.0%)
FOCUS; WHITE	4 (8.0%) *	10 (20.0%)	12 (24.0%) *	13 (26.0%) *
FOCUS		1 (2.0%)		
RIGHT LOBE; MASS; TAN				1 (2.0%)
NOSE	(50)	(50)	(50)	(50)
LEFT; MASS; TAN				1 (2.0%)
THORAX	(50)	(50)	(50)	(50)
ACCUMULATION; CLEAR		1 (2.0%)		
ACCUMULATION; RED		1 (2.0%)		

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Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
FLUID; CLEAR	1 (2.0%)	1 (2.0%)		2 (4.0%)
FLUID; RED				1 (2.0%)
FLUID; YELLOW			1 (2.0%)	
TRACHEA	(50)	(50)	(50)	(50)
VENTRAL; NODULE; WHITE				1 (2.0%)
SPECIAL SENSES SYSTEM				
EYE	(50)	(50)	(50)	(50)
LEFT; DISCOLORATION; RED				1 (2.0%)
DISCOLORATION; RED				1 (2.0%)
LEFT; SMALL	1 (2.0%)			1 (2.0%)
HARDERIAN GLAND	(50)	(50)	(50)	(50)
RIGHT; ENLARGED; RED	1 (2.0%)			
LEFT; NODULE; TAN	1 (2.0%)			
ZYMBALS GLAND	(50)	(50)	(50)	(50)
BILATERAL; ENLARGED; MOTTLED			1 (2.0%)	
HEAD; RIGHT; MASS	1 (2.0%)			
LEFT; MASS; GREEN			1 (2.0%)	

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Male: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
URINARY SYSTEM				
KIDNEY, LEFT	(50)	(50)	(50)	(50)
CYST; CLEAR	2 (4.0%)	1 (2.0%)	1 (2.0%)	2 (4.0%)
CYST; CLEAR, THREE		1 (2.0%)		
CYST; CLEAR, TWO				1 (2.0%)
CYST; DARK			1 (2.0%)	
DEFORMITY; DARK	1 (2.0%)		3 (6.0%)	1 (2.0%)
DEFORMITY; DIFFUSE			1 (2.0%)	1 (2.0%)
DEFORMITY; PALE	13 (26.0%)	17 (34.0%)	15 (30.0%)	22 (44.0%)
DEFORMITY; TAN	1 (2.0%)	4 (8.0%)	2 (4.0%)	
DEFORMITY	1 (2.0%)	6 (12.0%)	3 (6.0%)	5 (10.0%)
DILATION				1 (2.0%)
ENLARGED; DARK		1 (2.0%)		
ENLARGED; MOTTLED			1 (2.0%)	
ENLARGED; PALE		1 (2.0%)		
ENLARGED		1 (2.0%)		
KIDNEY, RIGHT	(50)	(50)	(50)	(50)
CYST; CLEAR	1 (2.0%)	2 (4.0%)	1 (2.0%)	2 (4.0%)
CYST; CLEAR, TWO				1 (2.0%)
CYST; ONE			1 (2.0%)	
DEFORMITY; DARK	1 (2.0%)		3 (6.0%)	1 (2.0%)
DEFORMITY; DIFFUSE			1 (2.0%)	1 (2.0%)
DEFORMITY; PALE	13 (26.0%)	17 (34.0%)	15 (30.0%)	22 (44.0%)
DEFORMITY; TAN	1 (2.0%)	4 (8.0%)	2 (4.0%)	
DEFORMITY	1 (2.0%)	6 (12.0%)	3 (6.0%)	5 (10.0%)
DILATION				1 (2.0%)
ENLARGED; DARK		1 (2.0%)		
ENLARGED; MOTTLED			1 (2.0%)	

Study Number: C20302B-03
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology
Test Compound: alpha-Pinene
CAS Number: 80-56-8

Date Report Requested: 04/05/2023
Time Report Requested: 15:47:13
Lab: Battelle

Male: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
ENLARGED; PALE		1 (2.0%)		
ENLARGED		1 (2.0%)		
URINARY BLADDER	(50)	(50)	(50)	(50)
ACCUMULATION; WHITE		1 (2.0%)		
DISCOLORATION; RED			1 (2.0%)	

Study Number: C20302B-03
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology
Test Compound: alpha-Pinene
CAS Number: 80-56-8

Date Report Requested: 04/05/2023
Time Report Requested: 15:47:13
Lab: Battelle

Female: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
Disposition Summary				
Animals Initially In Study	50	50	50	50
Censored				
Early Deaths				
Found Dead	8	19	15	17
Sacrificed, Moribund	15	16	22	28
Survivors				
Scheduled Sacrifice, Terminal	27	15	13	5
Number of Animals Examined	50	50	50	50

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
ALIMENTARY SYSTEM				
INTESTINE, LARGE, COLON	(50)	(50)	(50)	(50)
DILATION				1 (2.0%)
INTESTINE, SMALL, JEJUNUM	(50)	(50)	(50)	(50)
THICK; GREEN			1 (2.0%)	
LIVER	(50)	(50)	(50)	(50)
LOBE, MEDIAN; ADHESION		1 (2.0%)		
CAUDATE LOBE; CYST; CLEAR	1 (2.0%)	1 (2.0%)	2 (4.0%)	
LOBE, LEFT; CYST; CLEAR	4 (8.0%)	4 (8.0%)	2 (4.0%)	
LOBE, LEFT; CYST; CLEAR, FOUR		1 (2.0%)		
LOBE, LEFT; CYST; CLEAR, TWO		1 (2.0%)	1 (2.0%)	
LOBE, MEDIAN; CYST; CLEAR	0	5 (10.0%) *	2 (4.0%)	
LOBE, MEDIAN; CYST; CLEAR, TWO		1 (2.0%)	1 (2.0%)	
RIGHT; CYST; CLEAR		1 (2.0%)	1 (2.0%)	
RIGHT; CYST; CLEAR, THREE			1 (2.0%)	
LOBE, MEDIAN; DEFORMITY	1 (2.0%)			
LOBE, LEFT; FOCUS; ONE				1 (2.0%)
LOBE, LEFT; FOCUS; RED, THREE			1 (2.0%)	
LOBE, LEFT; FOCUS; WHITE				1 (2.0%)
FOCUS; WHITE				1 (2.0%)
CAUDATE LOBE; MASS; TAN		1 (2.0%)		
LOBE, LEFT; MASS; TAN		1 (2.0%)		
LOBE, LEFT; MASS; WHITE		1 (2.0%)		
LOBE, MEDIAN; MASS; TAN		2 (4.0%)		
RIGHT; MASS; TAN		1 (2.0%)		
LOBE, LEFT; NODULE; MOTTLED		1 (2.0%)		
LOBE, LEFT; NODULE; WHITE				1 (2.0%)
RIGHT; NODULE; PALE				1 (2.0%)

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
RIGHT; NODULE; TAN				1 (2.0%)
RIGHT; NODULE; WHITE		1 (2.0%)		
MESENTERY	(50)	(50)	(50)	(50)
MASS; TAN		1 (2.0%)		
NODULE; GREEN		1 (2.0%)		
NODULE; WHITE				1 (2.0%)
THICK; YELLOW				1 (2.0%)
PANCREAS	(50)	(50)	(50)	(50)
MASS; MOTTLED			1 (2.0%)	
MASS; TAN		2 (4.0%)		
NODULE; TAN		1 (2.0%)		
NODULE; TAN, TWO		1 (2.0%)		
STOMACH	(50)	(50)	(50)	(50)
SEROSA; MASS; TAN		1 (2.0%)		
STOMACH, FORESTOMACH	(50)	(50)	(50)	(50)
NODULE; TAN				1 (2.0%)
NODULE; WHITE	2 (4.0%)		1 (2.0%)	1 (2.0%)
STOMACH, GLANDULAR	(50)	(50)	(50)	(50)
NODULE; TAN				1 (2.0%)
TOOTH	(50)	(50)	(50)	(50)
RIGHT; INCISOR; DEFORMITY			1 (2.0%)	

Study Number: C20302B-03
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology
Test Compound: alpha-Pinene
CAS Number: 80-56-8

Date Report Requested: 04/05/2023
Time Report Requested: 15:47:13
Lab: Battelle

Female: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
CARDIOVASCULAR SYSTEM				
HEART	(50)	(50)	(50)	(50)
SEPTUM; MASS; TAN		1 (2.0%)		
LEFT; ATRIUM; NODULE; WHITE			1 (2.0%)	
LEFT; SEPTUM; NODULE; WHITE				1 (2.0%)
PERICARDIUM	(50)	(50)	(50)	(50)
NODULE; TAN		1 (2.0%)		

Study Number: C20302B-03**Test Type:** TOX**Route:** Whole-Body Inhalation**Species/Strain:** Rat/Harlan Sprague Dawley**PA46s: Summary of Gross Pathology****Test Compound:** alpha-Pinene**CAS Number:** 80-56-8**Date Report Requested:** 04/05/2023**Time Report Requested:** 15:47:13**Lab:** Battelle**Female: Core Animals**

	Treatment Groups (ppm)			
	0	50	100	200
ENDOCRINE SYSTEM				
ADRENAL GLAND	(50)	(50)	(50)	(50)
BILATERAL; DISCOLORATION; MOTTLED		1 (2.0%)		
LEFT; ENLARGED; DARK			1 (2.0%)	1 (2.0%)
LEFT; ENLARGED; MOTTLED	1 (2.0%)		1 (2.0%)	
RIGHT; ENLARGED; MOTTLED	1 (2.0%)	1 (2.0%)	1 (2.0%)	2 (4.0%)
RIGHT; ENLARGED; RED			1 (2.0%)	
RIGHT; ENLARGED; TAN			1 (2.0%)	
RIGHT; ENLARGED	1 (2.0%)		1 (2.0%)	
LEFT; MASS; MOTTLED				1 (2.0%)
NODULE; TAN		1 (2.0%)		
PITUITARY GLAND	(50)	(50)	(50)	(50)
ENLARGED; DARK	4 (8.0%)	3 (6.0%)	3 (6.0%)	2 (4.0%)
ENLARGED; MOTTLED	6 (12.0%)	3 (6.0%)	1 (2.0%)	
ENLARGED; RED	8 (16.0%)	2 (4.0%)	3 (6.0%)	
ENLARGED; TAN	2 (4.0%)	2 (4.0%)	1 (2.0%)	1 (2.0%)
FOCUS; RED		1 (2.0%)		
NODULE; DARK			1 (2.0%)	
NODULE; MOTTLED	1 (2.0%)			
NODULE; RED	1 (2.0%)	2 (4.0%)		
NODULE; TAN	1 (2.0%)			
THYROID GLAND	(50)	(50)	(50)	(50)
LEFT; ENLARGED; DARK				1 (2.0%)
ENLARGED				1 (2.0%)
RIGHT; MASS; TAN		1 (2.0%)		
RIGHT; NODULE; WHITE			1 (2.0%)	

Study Number: C20302B-03
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology
Test Compound: alpha-Pinene
CAS Number: 80-56-8

Date Report Requested: 04/05/2023
Time Report Requested: 15:47:13
Lab: Battelle

Female: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
GENERAL BODY SYSTEM				
ABDOMEN	(50)	(50)	(50)	(50)
ACCUMULATION; RED	1 (2.0%)			1 (2.0%)
FLUID; RED		1 (2.0%)		
PERITONEUM	(50)	(50)	(50)	(50)
THICK; YELLOW				1 (2.0%)

Study Number: C20302B-03**Test Type:** TOX**Route:** Whole-Body Inhalation**Species/Strain:** Rat/Harlan Sprague Dawley**PA46s: Summary of Gross Pathology****Test Compound:** alpha-Pinene**CAS Number:** 80-56-8**Date Report Requested:** 04/05/2023**Time Report Requested:** 15:47:13**Lab:** Battelle**Female: Core Animals**

	Treatment Groups (ppm)			
	0	50	100	200
GENITAL SYSTEM				
CERVIX	(50)	(50)	(50)	(50)
MASS; RED		1 (2.0%)		
OVARY	(50)	(50)	(50)	(50)
CYST; CLEAR	1 (2.0%)			
OVARY, LEFT	(50)	(50)	(50)	(50)
CYST; CLEAR	6 (12.0%)	4 (8.0%)	8 (16.0%)	5 (10.0%)
CYST; CLEAR, THREE	1 (2.0%)			1 (2.0%)
CYST; PINK			1 (2.0%)	
CYST; RED	1 (2.0%)			
CYST				1 (2.0%)
ENLARGED				1 (2.0%)
MASS; MOTTLED		1 (2.0%)		
MASS; TAN		1 (2.0%)		
SMALL			1 (2.0%)	
OVARY, RIGHT	(50)	(50)	(50)	(50)
CYST; CLEAR	2 (4.0%) *	1 (2.0%)	9 (18.0%) *	7 (14.0%)
CYST; PINK			1 (2.0%)	
CYST			1 (2.0%)	1 (2.0%)
UTERUS	(50)	(50)	(50)	(50)
BILATERAL; ACCUMULATION; RED		1 (2.0%)		1 (2.0%)
LEFT; CYST; RED				1 (2.0%)
BILATERAL; DILATION; DARK	1 (2.0%)	3 (6.0%)	5 (10.0%)	4 (8.0%)
BILATERAL; DILATION; MOTTLED				1 (2.0%)
BILATERAL; DILATION; PALE			1 (2.0%)	
BILATERAL; DILATION; RED	2 (4.0%)	1 (2.0%)	5 (10.0%)	4 (8.0%)
BILATERAL; DILATION		1 (2.0%)		
LEFT; DILATION; RED	1 (2.0%)			

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
RIGHT; DILATION; DARK	1 (2.0%)			
BILATERAL; DISCOLORATION; DARK		1 (2.0%)		
LEFT; ENLARGED; MOTTLED				1 (2.0%)
RIGHT; ENLARGED; DARK				1 (2.0%)
RIGHT; FOCUS; DARK		1 (2.0%)		
CERVICAL; MASS; RED		1 (2.0%)		
CERVICAL; MASS; TAN		1 (2.0%)		
LEFT; MASS; DARK			1 (2.0%)	
LEFT; MASS; GREEN				1 (2.0%)
LEFT; MASS; MOTTLED	0 *			2 (4.0%)
LEFT; MASS; RED	1 (2.0%)	1 (2.0%)		
LEFT; MASS; TAN		3 (6.0%)	2 (4.0%)	1 (2.0%)
RIGHT; MASS; DARK			1 (2.0%)	
RIGHT; MASS; GREEN				1 (2.0%)
RIGHT; MASS; MOTTLED			1 (2.0%)	1 (2.0%)
RIGHT; MASS; RED		2 (4.0%)		1 (2.0%)
RIGHT; MASS		1 (2.0%)		
MASS; DARK, RED				1 (2.0%)
MASS; MOTTLED		1 (2.0%)		
MASS; TAN				1 (2.0%)
LEFT; NODULE; DARK				1 (2.0%)
LEFT; NODULE; RED, THREE				1 (2.0%)
RIGHT; NODULE; RED		1 (2.0%)	1 (2.0%)	1 (2.0%)
RIGHT; NODULE		1 (2.0%)		
NODULE; RED			1 (2.0%)	
NODULE; RED, THREE			1 (2.0%)	
VAGINA	(50)	(50)	(50)	(50)
ACCUMULATION; RED		1 (2.0%)		

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
HEMATOLYMPHOID SYSTEM				
LYMPH NODE	(50)	(50)	(50)	(50)
BILATERAL; LUMBAR; ENLARGED; TAN		1 (2.0%)		
LUMBAR; ENLARGED; DARK, TWO			1 (2.0%)	
LUMBAR; ENLARGED		1 (2.0%)		
RENAL; ENLARGED; TAN, TWO	1 (2.0%)			
RIGHT; INGUINAL; ENLARGED; TAN		1 (2.0%)		
RIGHT; ENLARGED; TAN	1 (2.0%)			
LYMPH NODE, AXILLARY	(50)	(50)	(50)	(50)
ENLARGED; PALE		1 (2.0%)		
LYMPH NODE, MANDIBULAR	(50)	(50)	(50)	(50)
ENLARGED; FIVE, TAN			1 (2.0%)	
ENLARGED; PALE		1 (2.0%)		
ENLARGED; TAN		1 (2.0%)		
LYMPH NODE, MEDIASTINAL	(50)	(50)	(50)	(50)
ENLARGED; FOUR, TAN	1 (2.0%)	1 (2.0%)		
ENLARGED; WHITE				1 (2.0%)
ENLARGED		1 (2.0%)		
LYMPH NODE, MESENTERIC	(50)	(50)	(50)	(50)
ENLARGED; MOTTLED		1 (2.0%)		
ENLARGED; TAN	1 (2.0%)	1 (2.0%)		
ENLARGED		1 (2.0%)		
SPLEEN	(50)	(50)	(50)	(50)
CAPSULE; DISCOLORATION; THREE, WHITE			1 (2.0%)	
ENLARGED; DARK		2 (4.0%)	1 (2.0%)	1 (2.0%)
ENLARGED; MOTTLED	1 (2.0%)			
ENLARGED; RED	1 (2.0%)		2 (4.0%)	2 (4.0%)
ENLARGED	1 (2.0%)			1 (2.0%)

Study Number: C20302B-03
Test Type: TOX
Route: Whole-Body Inhalation
Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology
Test Compound: alpha-Pinene
CAS Number: 80-56-8

Date Report Requested: 04/05/2023
Time Report Requested: 15:47:13
Lab: Battelle

Female: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
MASS; DARK	1 (2.0%)			
MASS; RED	1 (2.0%)			
CAPSULE; NODULE; TAN		1 (2.0%)		
THYMUS	(50)	(50)	(50)	(50)
ENLARGED		1 (2.0%)		
SMALL; TAN	1 (2.0%)			1 (2.0%)
SMALL	0 *	2 (4.0%)		4 (8.0%)

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
INTEGUMENTARY SYSTEM				
MAMMARY GLAND	(50)	(50)	(50)	(50)
ABDOMINAL; LEFT; MASS; MOTTLED			1 (2.0%)	
ABDOMINAL; MASS; MOTTLED	1 (2.0%)	1 (2.0%)	2 (4.0%)	1 (2.0%)
ABDOMINAL; MASS; PALE				1 (2.0%)
ABDOMINAL; MASS; TAN				1 (2.0%)
BILATERAL; INGUINAL; MASS; MOTTLED	1 (2.0%)			
CERVICAL; MASS; MOTTLED		1 (2.0%)		1 (2.0%)
INGUINAL; MASS; MOTTLED		1 (2.0%)		
INGUINAL; MASS; PALE				1 (2.0%)
INGUINAL; MASS; TAN		1 (2.0%)	1 (2.0%)	
LEFT; ABDOMINAL; MASS; MOTTLED	2 (4.0%)	2 (4.0%)		1 (2.0%)
LEFT; ABDOMINAL; MASS; TAN		1 (2.0%)	1 (2.0%)	2 (4.0%)
LEFT; AXILLARY; MASS; DARK	1 (2.0%)			
LEFT; AXILLARY; MASS; MOTTLED		3 (6.0%)	2 (4.0%)	2 (4.0%)
LEFT; AXILLARY; MASS; PALE				1 (2.0%)
LEFT; AXILLARY; MASS; TAN	5 (10.0%)	8 (16.0%)	7 (14.0%)	7 (14.0%)
LEFT; CERVICAL; MASS; MOTTLED			1 (2.0%)	
LEFT; CERVICAL; MASS; PALE				1 (2.0%)
LEFT; CERVICAL; MASS; TAN			3 (6.0%)	
LEFT; INGUINAL; MASS; BLACK	1 (2.0%)			
LEFT; INGUINAL; MASS; MOTTLED	1 (2.0%)	3 (6.0%)	1 (2.0%)	4 (8.0%)
LEFT; INGUINAL; MASS; PALE	0 *			2 (4.0%)
LEFT; INGUINAL; MASS; RED	1 (2.0%)			
LEFT; INGUINAL; MASS; TAN	2 (4.0%)	5 (10.0%)	4 (8.0%)	2 (4.0%)
LEFT; THORACIC; MASS; MOTTLED	2 (4.0%) **	1 (2.0%)	3 (6.0%)	10 (20.0%) *
LEFT; THORACIC; MASS; PALE			1 (2.0%)	
LEFT; THORACIC; MASS; RED				1 (2.0%)

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
LEFT; THORACIC; MASS; TAN	2 (4.0%)	4 (8.0%)	2 (4.0%)	1 (2.0%)
LEFT; VENTRAL; MASS; TAN			1 (2.0%)	
RIGHT; ABDOMINAL; MASS; MOTTLED	4 (8.0%)		4 (8.0%)	1 (2.0%)
RIGHT; ABDOMINAL; MASS; RED		1 (2.0%)		
RIGHT; ABDOMINAL; MASS; TAN	2 (4.0%)	2 (4.0%)	3 (6.0%)	4 (8.0%)
RIGHT; AXILLARY; MASS; MOTTLED	2 (4.0%)		2 (4.0%)	1 (2.0%)
RIGHT; AXILLARY; MASS; PALE			1 (2.0%)	1 (2.0%)
RIGHT; AXILLARY; MASS; RED	1 (2.0%)	1 (2.0%)	2 (4.0%)	
RIGHT; AXILLARY; MASS; TAN	4 (8.0%)	7 (14.0%)	5 (10.0%)	3 (6.0%)
RIGHT; CERVICAL; MASS; MOTTLED	1 (2.0%)	1 (2.0%)		
RIGHT; CERVICAL; MASS; RED			1 (2.0%)	
RIGHT; CERVICAL; MASS; TAN			1 (2.0%)	1 (2.0%)
RIGHT; HINDLIMB; MASS; MOTTLED			1 (2.0%)	
RIGHT; INGUINAL; MASS; MOTTLED	2 (4.0%)		3 (6.0%)	
RIGHT; INGUINAL; MASS; TAN	1 (2.0%)	2 (4.0%)	3 (6.0%)	4 (8.0%)
RIGHT; THORACIC; MASS; MOTTLED	3 (6.0%)	2 (4.0%)	5 (10.0%)	3 (6.0%)
RIGHT; THORACIC; MASS; RED				1 (2.0%)
RIGHT; THORACIC; MASS; TAN		2 (4.0%)	4 (8.0%)	1 (2.0%)
THORACIC; RIGHT; MASS; TAN				1 (2.0%)
THORACIC; MASS; DARK			1 (2.0%)	
THORACIC; MASS; MOTTLED	1 (2.0%)	2 (4.0%)		1 (2.0%)
THORACIC; MASS; TAN	1 (2.0%)	1 (2.0%)		
VENTRAL; CERVICAL; MASS; TAN				1 (2.0%)
VENTRAL; THORACIC; MASS; MOTTLED			1 (2.0%)	
VENTRAL; THORACIC; MASS; TAN	1 (2.0%)			
MASS; TAN		1 (2.0%)		
SKIN	(50)	(50)	(50)	(50)
RIGHT; HINDLIMB; ACCUMULATION; RED		1 (2.0%)		

Female: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
CRUST; BROWN		1 (2.0%)		
LEFT; AXILLARY; MASS; TAN				1 (2.0%)
LEFT; THORACIC; MASS; DARK				1 (2.0%)
RIGHT; FORELIMB; MASS; MOTTLED				1 (2.0%)
RIGHT; HINDLIMB; MASS; TAN	1 (2.0%)			
RIGHT; THORACIC; MASS; MOTTLED			1 (2.0%)	
VENTRAL; THORACIC; MASS; DARK				1 (2.0%)
LEFT; NODULE; WHITE				1 (2.0%)
NODULE; PALE	1 (2.0%)			
MUSCULOSKELETAL SYSTEM				
BONE	(50)	(50)	(50)	(50)
RIGHT; RADIUS; FRACTURE		1 (2.0%)		
LEFT; HINDLIMB; THICK; RED		1 (2.0%)		
BONE, FEMUR	(50)	(50)	(50)	(50)
MASS; MOTTLED				1 (2.0%)
SKELETAL MUSCLE	(50)	(50)	(50)	(50)
ABDOMINAL; MASS; MOTTLED		1 (2.0%)		
DIAPHRAGM; MASS; FIVE, TAN		1 (2.0%)		
LEFT; HINDLIMB; MASS; PALE		1 (2.0%)		
LEFT; MASS; MOTTLED			1 (2.0%)	
VENTRAL; THORACIC; MASS; MOTTLED	1 (2.0%)			
DIAPHRAGM; NODULE; FOUR, WHITE				1 (2.0%)
DIAPHRAGM; THICK; PALE				1 (2.0%)
NERVOUS SYSTEM				
None				

Study Number: C20302B-03

Test Type: TOX

Route: Whole-Body Inhalation

Species/Strain: Rat/Harlan Sprague Dawley

PA46s: Summary of Gross Pathology

Test Compound: alpha-Pinene

CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
RESPIRATORY SYSTEM				
LUNG	(50)	(50)	(50)	(50)
CRANIAL; FOCUS; WHITE	1 (2.0%)			
LEFT; FOCUS; WHITE		1 (2.0%)		
LOBE, LEFT; FOCUS; ONE, WHITE	1 (2.0%)			
LOBE, LEFT; FOCUS; TAN	1 (2.0%)			2 (4.0%)
LOBE, LEFT; FOCUS; THREE, WHITE			1 (2.0%)	
LOBE, LEFT; FOCUS; WHITE	5 (10.0%)	2 (4.0%)		1 (2.0%)
RIGHT; CRANIAL; FOCUS; WHITE	1 (2.0%)			
RIGHT LOBE; FOCUS; CAUDAL, FOUR, WHITE			1 (2.0%)	
RIGHT LOBE; FOCUS; CAUDAL, TAN				1 (2.0%)
RIGHT LOBE; FOCUS; CAUDAL, WHITE	4 (8.0%)			
RIGHT LOBE; FOCUS; TAN	1 (2.0%)			
FOCUS; CAUDAL, WHITE	1 (2.0%)			
FOCUS; DIFFUSE				1 (2.0%)
FOCUS; DIFFUSE, WHITE		1 (2.0%)	1 (2.0%)	1 (2.0%)
FOCUS; FOUR, TAN			1 (2.0%)	
FOCUS; RED	1 (2.0%)			
FOCUS; TAN		3 (6.0%)	2 (4.0%)	2 (4.0%)
FOCUS; WHITE	27 (54.0%)	28 (56.0%)	31 (62.0%)	21 (42.0%)
FOCUS; YELLOW				1 (2.0%)
ACCESSORY LOBE; RIGHT; MASS; TAN	1 (2.0%)			
ACCESSORY LOBE; MASS; TAN	0 *			2 (4.0%)
LOBE, LEFT; MASS; TAN		1 (2.0%)		2 (4.0%)
RIGHT; CRANIAL; MASS; MOTTLED				1 (2.0%)
RIGHT LOBE; MASS; CAUDAL, RED				1 (2.0%)
RIGHT LOBE; MASS; CAUDAL, TAN		1 (2.0%)		1 (2.0%)
LOBE, LEFT; NODULE; TAN		1 (2.0%)		1 (2.0%)

Female: Core Animals				
	Treatment Groups (ppm)			
	0	50	100	200
LOBE, MIDDLE, RIGHT; NODULE; WHITE				1 (2.0%)
RIGHT LOBE; NODULE; CAUDAL, TAN	0 *			2 (4.0%)
NODULE; WHITE	1 (2.0%)			
THORAX	(50)	(50)	(50)	(50)
FLUID; CLEAR	1 (2.0%)			
FLUID; RED	1 (2.0%)		1 (2.0%)	
SPECIAL SENSES SYSTEM				
EYE	(50)	(50)	(50)	(50)
RIGHT; CYST; WHITE		1 (2.0%)		
BILATERAL; DISCOLORATION; OPAQUE				1 (2.0%)
SMALL			1 (2.0%)	
HARDERIAN GLAND	(50)	(50)	(50)	(50)
RIGHT; DISCOLORATION; MOTTLED	1 (2.0%)			
LACRIMAL GLAND	(50)	(50)	(50)	(50)
RIGHT; DISCOLORATION; DARK			1 (2.0%)	
ZYMBALS GLAND	(50)	(50)	(50)	(50)
RIGHT; MASS; TAN	1 (2.0%)	1 (2.0%)		

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CAS Number: 80-56-8

Date Report Requested: 04/05/2023

Time Report Requested: 15:47:13

Lab: Battelle

Female: Core Animals

	Treatment Groups (ppm)			
	0	50	100	200
URINARY SYSTEM				
KIDNEY, LEFT	(50)	(50)	(50)	(50)
CYST; TAN	1 (2.0%)			
DEFORMITY; DIFFUSE	1 (2.0%)			
DEFORMITY; PALE	4 (8.0%)		4 (8.0%)	1 (2.0%)
DEFORMITY; TAN	1 (2.0%)	1 (2.0%)		
DEFORMITY	1 (2.0%)			1 (2.0%)
PELVIS; DILATION		1 (2.0%)	1 (2.0%)	
FOCUS; TAN			1 (2.0%)	
FOCUS; WHITE		1 (2.0%)		
MASS; WHITE		1 (2.0%)		
KIDNEY, RIGHT	(50)	(50)	(50)	(50)
CYST; CLEAR	1 (2.0%)	1 (2.0%)		
DEFORMITY; DIFFUSE	1 (2.0%)			
DEFORMITY; PALE	4 (8.0%)		4 (8.0%)	1 (2.0%)
DEFORMITY; TAN	1 (2.0%)	1 (2.0%)		
DEFORMITY	1 (2.0%)			1 (2.0%)
PELVIS; DILATION; RED		1 (2.0%)		
PELVIS; DILATION		2 (4.0%)		1 (2.0%)
DILATION		1 (2.0%)		
FOCUS; TAN			1 (2.0%)	
FOCUS; WHITE		1 (2.0%)		

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LEGEND

Censored animals are animals not in one of the other disposition categories that are removed prior to the end of the study. The censored animals are included in the pathology data if microscopic examination of tissues was performed.

In the rows with the tissue names, the number of animals with each tissue is shown in parentheses.

In the rows with the lesion names, the number of animals with observation are reported with percent incidence in parentheses. If none of the animals examined have the specific lesion, there is a blank for that dose group for that specific lesion. The exception to this is if statistical significance is found for a lesion and the control group has no animals with the lesion; in that case a 0 is included for the control group on the table for that lesion.

Statistical analysis performed by Cochran-Armitage (trend) and Fisher Exact (pairwise) one-sided tests.

Non-pregnant females are included in the analysis.

Statistical significance for the control group indicates a significant trend test

Statistical significance for a treatment group indicates a significant pairwise test compared to the vehicle control group

* Statistically significant at $P \leq 0.05$

** Statistically significant at $P \leq 0.01$

**** END OF REPORT ****