

Experiment Number: 10472 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

p-Chloro-a,a,a-trifluorotoluene

CAS Number: 98-56-6

Date Report Requested: 08/05/2016

Time Report Requested: 10:34:45

First Dose M/F: 10/26/09 / 10/26/09

Lab: BNW

F2_HSD Rats

NTP Study Number: C10472
Lock Date: 06/08/2010
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	CONTROL	125 ppm	250 ppm	500 ppm	1000 ppm	2000 ppm
Disposition Summary						
Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Survivors						
Terminal Sacrifice	10	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10	10

ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(0)	(9)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(1)	(0)	(0)	(10)
Hyperplasia, Lymphoid			1 (100%)			
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(1)	(0)	(0)	(10)
Peyer's Patch, Hyperplasia			1 (100%)			
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(10)	(10)	(10)	(10)	(10)
Clear Cell Focus				1 (10%)		
Hepatodiaphragmatic Nodule						1 (10%)
Inflammation, Chronic Active	1 (10%)		1 (10%)			1 (10%)
Necrosis					1 (10%)	2 (20%)
Centrilobular, Hepatocyte, Hypertrophy			8 (80%)	10 (100%)	10 (100%)	10 (100%)
Pancreas	(10)	(0)	(0)	(0)	(0)	(10)
Acinus, Atrophy	1 (10%)					
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(0)	(10)

CARDIOVASCULAR SYSTEM

Blood Vessel	(10)	(0)	(0)	(1)	(0)	(10)
Heart	(10)	(0)	(0)	(0)	(0)	(10)

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

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Harlan Sprague Dawley RATS MALE	CONTROL	125 ppm	250 ppm	500 ppm	1000 ppm	2000 ppm
Cardiomyopathy	4 (40%)					3 (30%)
ENDOCRINE SYSTEM						
Adrenal Cortex	(10)	(10)	(10)	(10)	(10)	(10)
Vacuolization Cytoplasmic						7 (70%)
Adrenal Medulla	(10)	(10)	(10)	(10)	(10)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(8)	(0)	(0)	(0)	(0)	(4)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Epididymis	(10)	(10)	(10)	(10)	(10)	(10)
Hypospermia	1 (10%)		1 (10%)	1 (10%)		
Duct, Exfoliated Germ Cell			1 (10%)		1 (10%)	6 (60%)
Preputial Gland	(10)	(0)	(0)	(0)	(0)	(9)
Inflammation, Chronic	2 (20%)					
Prostate	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic	3 (30%)					
Inflammation, Chronic Active	1 (10%)					
Seminal Vesicle	(10)	(0)	(0)	(0)	(0)	(10)
Testes	(10)	(10)	(10)	(10)	(10)	(10)
Germ Cell, Degeneration			1 (10%)		2 (20%)	6 (60%)
Germinal Epithelium, Atrophy	1 (10%)			1 (10%)		
Rete Testes, Dilation				1 (10%)		
Seminiferous Tubule, Dilation				1 (10%)		
Seminiferous Tubule, Spermatid Retention				3 (30%)	4 (40%)	4 (40%)

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Harlan Sprague Dawley RATS MALE	CONTROL	125 ppm	250 ppm	500 ppm	1000 ppm	2000 ppm
HEMATOPOIETIC SYSTEM						
Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Bronchial	(9)	(0)	(0)	(0)	(0)	(7)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(0)	(9)
Congestion	1 (10%)					
Lymph Node, Mediastinal	(10)	(0)	(0)	(0)	(0)	(8)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(10)
Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Thymus	(10)	(10)	(10)	(10)	(10)	(9)
INTEGUMENTARY SYSTEM						
Mammary Gland	(8)	(0)	(0)	(0)	(0)	(7)
Hyperplasia						1 (14%)
Skin	(10)	(0)	(0)	(0)	(0)	(10)
MUSCULOSKELETAL SYSTEM						
Bone	(10)	(0)	(0)	(0)	(0)	(10)
NERVOUS SYSTEM						
Brain	(10)	(0)	(0)	(0)	(0)	(10)
RESPIRATORY SYSTEM						
Larynx	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Neutrophil	1 (10%)					
Inflammation, Chronic Active	1 (10%)					
Lung	(10)	(0)	(1)	(0)	(1)	(10)
Congestion			1 (100%)			
Infiltration Cellular, Histiocyte, Focal	1 (10%)					4 (40%)

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Harlan Sprague Dawley RATS MALE	CONTROL	125 ppm	250 ppm	500 ppm	1000 ppm	2000 ppm
Inflammation, Focal, Chronic Active Metaplasia, Osseous	1 (10%)				1 (100%)	1 (10%)
Nose	(10)	(0)	(0)	(0)	(0)	(10)
Olfactory Epithelium, Accumulation, Hyaline Droplet	5 (50%)					3 (30%)
Trachea	(10)	(0)	(0)	(0)	(0)	(10)
SPECIAL SENSES SYSTEM						
Eye	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Polymorphonuclear Retrobulbar, Inflammation, Neutrophil	1 (10%)					1 (10%)
Harderian Gland	(10)	(10)	(10)	(10)	(10)	(10)
Degeneration		1 (10%)	9 (90%)	10 (100%)	10 (100%)	10 (100%)
Inflammation, Neutrophil	1 (10%)					
Inflammation, Chronic	4 (40%)	6 (60%)	6 (60%)	9 (90%)	6 (60%)	4 (40%)
URINARY SYSTEM						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Accumulation, Hyaline Droplet	10 (100%)	10 (100%)	10 (100%)	10 (100%)	10 (100%)	10 (100%)
Nephropathy, Chronic	10 (100%)	10 (100%)	10 (100%)	10 (100%)	10 (100%)	10 (100%)
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

*** END OF MALE ***

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Harlan Sprague Dawley RATS FEMALE	CONTROL	125 ppm	250 ppm	500 ppm	1000 ppm	2000 ppm
Disposition Summary						
Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Moribund Sacrifice						1
Survivors						
Terminal Sacrifice	10	10	10	10	10	9
Animals Examined Microscopically	10	10	10	10	10	10
ALIMENTARY SYSTEM						
Esophagus	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(10)	(10)	(10)	(10)	(10)
Clear Cell Focus						2 (20%)
Hepatodiaphragmatic Nodule			1 (10%)		1 (10%)	
Inflammation, Chronic Active					1 (10%)	
Centrilobular, Hepatocyte, Hypertrophy					10 (100%)	10 (100%)
Mesentery	(0)	(0)	(0)	(0)	(0)	(1)
Fat, Necrosis						1 (100%)
Pancreas	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Polymorphonuclear						1 (10%)
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Atrophy						1 (10%)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(0)	(10)
Tongue	(0)	(0)	(0)	(0)	(0)	(1)
Inflammation, Chronic Active						1 (100%)

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Harlan Sprague Dawley RATS FEMALE	CONTROL	125 ppm	250 ppm	500 ppm	1000 ppm	2000 ppm
CARDIOVASCULAR SYSTEM						
Blood Vessel	(10)	(0)	(0)	(0)	(0)	(10)
Heart	(10)	(0)	(0)	(0)	(0)	(10)
Cardiomyopathy	1 (10%)					
ENDOCRINE SYSTEM						
Adrenal Cortex	(10)	(10)	(10)	(10)	(10)	(10)
Vacuolization Cytoplasmic					4 (40%)	10 (100%)
Adrenal Medulla	(10)	(10)	(10)	(10)	(9)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(0)	(5)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Clitoral Gland	(9)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active	1 (11%)					1 (10%)
Ovary	(10)	(0)	(1)	(0)	(0)	(10)
Cyst			1 (100%)			
Uterus	(10)	(0)	(0)	(0)	(0)	(10)
HEMATOPOIETIC SYSTEM						
Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node	(0)	(0)	(0)	(1)	(0)	(0)
Lumbar, Hyperplasia, Lymphoid				1 (100%)		

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Lymph Node, Bronchial	(8)	(0)	(0)	(0)	(0)	(9)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(0)	(9)
Lymph Node, Mediastinal	(8)	(0)	(0)	(0)	(0)	(8)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(10)
Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Thymus	(10)	(10)	(10)	(10)	(10)	(10)
Atrophy						1 (10%)
INTEGUMENTARY SYSTEM						
Mammary Gland	(10)	(10)	(10)	(10)	(10)	(10)
Hyperplasia	1 (10%)			4 (40%)	6 (60%)	10 (100%)
Skin	(10)	(0)	(0)	(0)	(0)	(10)
MUSCULOSKELETAL SYSTEM						
Bone	(10)	(0)	(0)	(0)	(0)	(10)
NERVOUS SYSTEM						
Brain	(10)	(0)	(0)	(0)	(0)	(10)
RESPIRATORY SYSTEM						
Larynx	(10)	(0)	(0)	(0)	(0)	(10)
Lung	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Histiocyte, Focal	1 (10%)					1 (10%)
Inflammation, Chronic Active						1 (10%)
Metaplasia, Osseous						1 (10%)
Nose	(10)	(0)	(0)	(0)	(0)	(10)
Erosion	1 (10%)					1 (10%)
Olfactory Epithelium, Accumulation, Hyaline Droplet	7 (70%)					6 (60%)
Trachea	(10)	(0)	(0)	(0)	(0)	(10)

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Harlan Sprague Dawley RATS FEMALE	CONTROL	125 ppm	250 ppm	500 ppm	1000 ppm	2000 ppm
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SPECIAL SENSES SYSTEM						
Eye	(10)	(0)	(0)	(0)	(0)	(10)
Harderian Gland	(10)	(10)	(10)	(10)	(10)	(10)
Atrophy		1 (10%)				
Degeneration		3 (30%)	5 (50%)	9 (90%)	10 (100%)	10 (100%)
Inflammation, Chronic		1 (10%)	3 (30%)	6 (60%)	5 (50%)	1 (10%)

URINARY SYSTEM						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Nephropathy, Chronic	7 (70%)	4 (40%)	7 (70%)	9 (90%)	10 (100%)	10 (100%)
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

*** END OF REPORT ***

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