

**Experiment Number:** 10472 - 03  
**Test Type:** CHRONIC  
**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:** 05/16/2016

**Time Report Requested:** 11:15:09

**First Dose M/F:** 01/17/11 / 01/17/11

**Lab:** BNW

F2\_HSD Rats

**NTP Study Number:** C10472B  
**Lock Date:** 08/29/2013  
**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:** 03/08/2016

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
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## Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	16	19	21	27
Natural Death	9	10	14	18
Survivors				
Terminal Sacrifice	25	21	15	5
Animals Examined Microscopically	50	50	50	50

## ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(50)	(50)	(50)	(50)
Inflammation, Acute		1 (2%)		
Artery, Inflammation	1 (2%)	1 (2%)		
Intestine Large, Colon	(50)	(50)	(50)	(50)
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Serosa, Inflammation	1 (2%)			
Intestine Small, Duodenum	(50)	(50)	(50)	(50)
Hemorrhage				1 (2%)
Peyer's Patch, Hyperplasia, Lymphoid		1 (2%)	1 (2%)	
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Cyst				1 (2%)
Hemorrhage				1 (2%)
Artery, Inflammation	1 (2%)			
Peyer's Patch, Hyperplasia, Lymphoid			1 (2%)	
Intestine Small, Jejunum	(50)	(50)	(50)	(50)
Inflammation				1 (2%)
Artery, Inflammation	1 (2%)			1 (2%)
Peyer's Patch, Hyperplasia, Lymphoid		1 (2%)	1 (2%)	
Liver	(50)	(50)	(50)	(50)
Angiectasis				3 (6%)
Basophilic Focus	2 (4%)	3 (6%)	4 (8%)	2 (4%)
Cholangiofibrosis				1 (2%)
Clear Cell Focus	40 (80%)	31 (62%)	29 (58%)	10 (20%)

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

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
Degeneration, Cystic		2 (4%)	1 (2%)	1 (2%)
Eosinophilic Focus	1 (2%)	5 (10%)	6 (12%)	8 (16%)
Fatty Change		3 (6%)	7 (14%)	26 (52%)
Hematopoietic Cell Proliferation	1 (2%)	1 (2%)	1 (2%)	
Hemorrhage	1 (2%)	1 (2%)		
Hepatodiaphragmatic Nodule	2 (4%)			
Hyperplasia, Nodular	1 (2%)			
Hypertrophy				1 (2%)
Inflammation, Chronic Active	2 (4%)	1 (2%)		
Mixed Cell Focus	2 (4%)	6 (12%)	3 (6%)	2 (4%)
Vacuolization Cytoplasmic		1 (2%)		
Bile Duct, Cyst		1 (2%)	2 (4%)	
Bile Duct, Hyperplasia	32 (64%)	26 (52%)	24 (48%)	23 (46%)
Centrilobular, Hepatocyte, Hypertrophy	2 (4%)	17 (34%)	39 (78%)	47 (94%)
Centrilobular, Hepatocyte, Necrosis			1 (2%)	2 (4%)
Hepatocyte, Degeneration	1 (2%)			
Hepatocyte, Necrosis	3 (6%)	3 (6%)	4 (8%)	4 (8%)
Mesentery	(2)	(2)	(1)	(1)
Artery, Inflammation				1 (100%)
Fat, Necrosis	1 (50%)	2 (100%)	1 (100%)	
Pancreas	(50)	(50)	(50)	(50)
Inflammation			1 (2%)	
Acinus, Atrophy	8 (16%)	6 (12%)	6 (12%)	4 (8%)
Acinus, Hyperplasia	7 (14%)	11 (22%)	12 (24%)	11 (22%)
Acinus, Vacuolization Cytoplasmic				1 (2%)
Artery, Inflammation	17 (34%)	19 (38%)	19 (38%)	19 (38%)
Duct, Cyst			1 (2%)	
Salivary Glands	(50)	(50)	(50)	(50)
Atrophy, Focal				1 (2%)
Inflammation			2 (4%)	1 (2%)
Parotid Gland, Atrophy	1 (2%)			
Stomach, Forestomach	(50)	(50)	(50)	(50)
Inflammation, Chronic Active		2 (4%)		1 (2%)
Mineralization		1 (2%)		
Ulcer		1 (2%)		4 (8%)
Epithelium, Hyperplasia	1 (2%)	4 (8%)		4 (8%)

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
Stomach, Glandular	(50)	(50)	(50)	(50)
Mineralization	1 (2%)	1 (2%)	1 (2%)	3 (6%)
Ulcer	1 (2%)	1 (2%)		
Tongue	(0)	(1)	(0)	(0)
Artery, Inflammation		1 (100%)		
Tooth	(1)	(0)	(0)	(0)

**CARDIOVASCULAR SYSTEM**

Blood Vessel	(50)	(50)	(49)	(50)
Aorta, Inflammation	1 (2%)			
Aorta, Mineralization	3 (6%)	1 (2%)	2 (4%)	3 (6%)
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	41 (82%)	39 (78%)	45 (90%)	40 (80%)
Congestion			1 (2%)	
Atrium, Thrombosis		2 (4%)	1 (2%)	4 (8%)
Atrium, Myocardium, Inflammation			1 (2%)	
Epicardium, Inflammation	1 (2%)			
Myocardium, Mineralization				1 (2%)

**ENDOCRINE SYSTEM**

Adrenal Cortex	(50)	(50)	(50)	(50)
Angiectasis			1 (2%)	
Degeneration, Cystic	9 (18%)	5 (10%)	10 (20%)	6 (12%)
Hyperplasia	11 (22%)	15 (30%)	19 (38%)	8 (16%)
Hypertrophy	18 (36%)	11 (22%)	13 (26%)	14 (28%)
Necrosis		2 (4%)	2 (4%)	2 (4%)
Thrombosis		2 (4%)	1 (2%)	1 (2%)
Vacuolization Cytoplasmic	1 (2%)	1 (2%)		
Zona Fasciculata, Atrophy				1 (2%)
Adrenal Medulla	(50)	(50)	(50)	(50)
Hyperplasia	28 (56%)	37 (74%)	35 (70%)	30 (60%)
Necrosis				1 (2%)
Islets, Pancreatic	(50)	(50)	(50)	(50)

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
Hyperplasia	1 (2%)	1 (2%)	1 (2%)	1 (2%)
Parathyroid Gland	(48)	(48)	(48)	(46)
Hyperplasia	4 (8%)	1 (2%)	4 (8%)	1 (2%)
Hyperplasia, Focal				1 (2%)
Pituitary Gland	(50)	(50)	(49)	(50)
Angiectasis		1 (2%)	1 (2%)	
Cyst	2 (4%)	3 (6%)	5 (10%)	1 (2%)
Pars Distalis, Hyperplasia	13 (26%)	15 (30%)	12 (24%)	8 (16%)
Pars Distalis, Necrosis			1 (2%)	
Pars Intermedia, Hyperplasia	1 (2%)			
Thyroid Gland	(50)	(49)	(49)	(50)
Ultimobranchial Cyst	2 (4%)	1 (2%)	2 (4%)	2 (4%)
Ultimobranchial Cyst, Multiple	1 (2%)			
C-cell, Hyperplasia	16 (32%)	12 (24%)	14 (29%)	15 (30%)
Follicular Cell, Hyperplasia	1 (2%)	1 (2%)		1 (2%)
Follicular Cell, Hypertrophy		1 (2%)		

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Coagulating Gland	(1)	(0)	(0)	(0)
Inflammation	1 (100%)			
Epididymis	(50)	(50)	(50)	(50)
Atrophy				1 (2%)
Artery, Inflammation	1 (2%)	3 (6%)	2 (4%)	1 (2%)
Preputial Gland	(50)	(50)	(50)	(50)
Cyst	4 (8%)	2 (4%)	3 (6%)	1 (2%)
Inflammation	26 (52%)	26 (52%)	14 (28%)	17 (34%)
Prostate	(50)	(50)	(50)	(50)
Atrophy				1 (2%)
Inflammation	1 (2%)	5 (10%)	1 (2%)	2 (4%)
Seminal Vesicle	(50)	(50)	(50)	(50)

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
Atrophy				1 (2%)
Inflammation	3 (6%)	2 (4%)		2 (4%)
Testes	(50)	(50)	(50)	(50)
Artery, Inflammation	22 (44%)	26 (52%)	25 (50%)	28 (56%)
Germinal Epithelium, Atrophy	5 (10%)	6 (12%)	12 (24%)	6 (12%)
Interstitial Cell, Hyperplasia	1 (2%)	1 (2%)		2 (4%)
Tunic, Inflammation			1 (2%)	

## HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia			1 (2%)	
Lymph Node	(7)	(7)	(10)	(4)
Axillary, Congestion		1 (14%)		
Deep Cervical, Hyperplasia	1 (14%)			
Iliac, Ectasia			1 (10%)	
Iliac, Hyperplasia	1 (14%)			
Inguinal, Ectasia		1 (14%)		
Lumbar, Congestion		1 (14%)		
Lumbar, Ectasia		1 (14%)		
Lumbar, Hyperplasia		1 (14%)		
Renal, Congestion	1 (14%)	4 (57%)	9 (90%)	3 (75%)
Renal, Ectasia		2 (29%)		
Renal, Hyperplasia	1 (14%)			
Lymph Node, Bronchial	(30)	(26)	(29)	(26)
Lymph Node, Mandibular	(50)	(50)	(50)	(50)
Congestion		1 (2%)	2 (4%)	1 (2%)
Ectasia			1 (2%)	1 (2%)
Hyperplasia	3 (6%)	1 (2%)	1 (2%)	
Lymph Node, Mediastinal	(50)	(49)	(50)	(50)
Congestion	3 (6%)	2 (4%)	5 (10%)	8 (16%)
Hyperplasia		1 (2%)	1 (2%)	
Lymph Node, Mesenteric	(49)	(50)	(50)	(50)
Congestion	1 (2%)	2 (4%)		
Hemorrhage			1 (2%)	

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
Spleen	(50)	(50)	(50)	(50)
Hematopoietic Cell Proliferation	29 (58%)	30 (60%)	30 (60%)	22 (44%)
Hemorrhage	1 (2%)			
Necrosis		1 (2%)		
Lymphoid Follicle, Hyperplasia			1 (2%)	
Red Pulp, Congestion		1 (2%)		1 (2%)
Thymus	(48)	(50)	(48)	(49)
Atrophy	45 (94%)	44 (88%)	46 (96%)	45 (92%)
Cyst			1 (2%)	1 (2%)
Hematopoietic Cell Proliferation			1 (2%)	
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(43)	(38)	(38)	(37)
Skin	(50)	(50)	(50)	(50)
Cyst, Squamous	1 (2%)			
Cyst Epithelial Inclusion	3 (6%)	4 (8%)	4 (8%)	3 (6%)
Edema		1 (2%)	1 (2%)	
Inflammation	2 (4%)	1 (2%)	1 (2%)	
Ulcer			1 (2%)	3 (6%)
Sebaceous Gland, Cyst			1 (2%)	
Sebaceous Gland, Inflammation, Suppurative	1 (2%)			
Subcutaneous Tissue, Fibrosis		1 (2%)		
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)
Skeletal Muscle	(7)	(6)	(4)	(2)
Degeneration	1 (14%)			
Inflammation	2 (29%)			
Regeneration		1 (17%)		
<b>NERVOUS SYSTEM</b>				

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
Brain	(50)	(50)	(50)	(50)
Angiectasis				1 (2%)
Gliosis	1 (2%)			
Hemorrhage				1 (2%)
Artery, Inflammation		1 (2%)		
Cerebellum, Necrosis	1 (2%)			
Cerebrum, Necrosis	1 (2%)			2 (4%)
Glial Cell, Hyperplasia	1 (2%)			
Hypothalamus, Compression		2 (4%)		1 (2%)
Unilateral, Compression			1 (2%)	
Peripheral Nerve	(7)	(5)	(4)	(2)
Axon, Degeneration	3 (43%)			
Spinal Cord	(7)	(5)	(4)	(2)
Axon, Degeneration		1 (20%)		
Nerve, Gliosis	1 (14%)			
<b>RESPIRATORY SYSTEM</b>				
Larynx	(50)	(50)	(50)	(50)
Inflammation	5 (10%)	6 (12%)	6 (12%)	4 (8%)
Metaplasia, Squamous			1 (2%)	
Lung	(50)	(50)	(50)	(50)
Edema		1 (2%)	1 (2%)	
Fibrosis	8 (16%)	22 (44%)	28 (56%)	24 (48%)
Foreign Body				2 (4%)
Hemorrhage	11 (22%)	23 (46%)	28 (56%)	28 (56%)
Infiltration Cellular, Histiocyte	1 (2%)			
Inflammation, Chronic	32 (64%)	42 (84%)	47 (94%)	45 (90%)
Metaplasia, Osseous	12 (24%)	17 (34%)	17 (34%)	9 (18%)
Alveolar Epithelium, Hyperplasia	1 (2%)	2 (4%)		
Alveolus, Infiltration Cellular, Histiocyte	27 (54%)	26 (52%)	27 (54%)	22 (44%)
Bronchiole, Inflammation, Suppurative				1 (2%)
Mediastinum, Hemorrhage		1 (2%)		
Nose	(50)	(50)	(50)	(50)
Exudate	8 (16%)	12 (24%)	12 (24%)	18 (36%)

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Harlan Sprague Dawley RATS MALE	Control	100 ppm	300 ppm	1000 ppm
Foreign Body		1 (2%)		
Hemorrhage			1 (2%)	
Inflammation, Chronic Active	2 (4%)			
Nasopharyngeal Duct, Inflammation, Suppurative				1 (2%)
Olfactory Epithelium, Accumulation, Hyaline Droplet	37 (74%)	31 (62%)	34 (68%)	30 (60%)
Olfactory Epithelium, Degeneration	1 (2%)		2 (4%)	2 (4%)
Olfactory Epithelium, Inflammation				1 (2%)
Olfactory Epithelium, Metaplasia, Respiratory	1 (2%)			
Trachea	(50)	(50)	(50)	(50)
Inflammation	1 (2%)			

**SPECIAL SENSES SYSTEM**

Eye	(50)	(50)	(50)	(50)
Degeneration		1 (2%)		
Hemorrhage		1 (2%)		
Anterior Chamber, Inflammation, Suppurative	1 (2%)	1 (2%)		
Cornea, Hyperplasia			1 (2%)	
Cornea, Inflammation	4 (8%)	5 (10%)	9 (18%)	1 (2%)
Harderian Gland	(50)	(50)	(50)	(50)
Atrophy		2 (4%)	1 (2%)	
Hyperplasia	1 (2%)			
Inflammation		3 (6%)	1 (2%)	2 (4%)
Zymbal's Gland	(1)	(2)	(0)	(0)

**URINARY SYSTEM**

Kidney	(50)	(50)	(50)	(50)
Cyst	3 (6%)	2 (4%)	2 (4%)	3 (6%)
Hemorrhage	1 (2%)			
Infarct	1 (2%)			
Inflammation, Chronic Active	1 (2%)			
Nephropathy	49 (98%)	49 (98%)	50 (100%)	50 (100%)

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Thrombosis				1 (2%)
Pelvis, Dilatation		2 (4%)		
Renal Tubule, Mineralization	1 (2%)	1 (2%)		
Urinary Bladder	(50)	(50)	(50)	(50)
Inflammation		2 (4%)		
Necrosis		1 (2%)		
Ulcer	1 (2%)			1 (2%)
Urothelium, Hyperplasia	1 (2%)			

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\*\*\* END OF MALE \*\*\*

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Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
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## Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Accidentally Killed		1		
Moribund Sacrifice	22	27	18	18
Natural Death	5	1	7	2
Survivors				
Natural Death	1			
Terminal Sacrifice	22	21	25	30
Animals Examined Microscopically	50	50	50	50

## ALIMENTARY SYSTEM

Esophagus	(49)	(50)	(50)	(50)
Intestine Large, Cecum	(50)	(50)	(50)	(50)
Inflammation		1 (2%)		
Artery, Inflammation		1 (2%)		
Intestine Large, Colon	(50)	(50)	(50)	(50)
Inflammation		1 (2%)		
Artery, Inflammation		1 (2%)		
Artery, Serosa, Inflammation			1 (2%)	
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Inflammation		1 (2%)		
Artery, Inflammation		1 (2%)		
Intestine Small, Duodenum	(50)	(50)	(50)	(50)
Artery, Inflammation		1 (2%)		
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Intestine Small, Jejunum	(50)	(50)	(50)	(50)
Artery, Inflammation		1 (2%)		1 (2%)
Liver	(50)	(50)	(50)	(50)
Angiectasis		5 (10%)	5 (10%)	1 (2%)
Basophilic Focus	7 (14%)	3 (6%)	2 (4%)	7 (14%)
Cholangiofibrosis	1 (2%)			
Clear Cell Focus	16 (32%)	15 (30%)	23 (46%)	38 (76%)
Eosinophilic Focus	7 (14%)	6 (12%)	7 (14%)	15 (30%)

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Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Fatty Change	2 (4%)	4 (8%)	11 (22%)	10 (20%)
Fibrosis	1 (2%)	1 (2%)		1 (2%)
Hematopoietic Cell Proliferation	7 (14%)	1 (2%)	4 (8%)	3 (6%)
Hepatodiaphragmatic Nodule	2 (4%)	1 (2%)	1 (2%)	
Inflammation, Chronic Active	1 (2%)			1 (2%)
Mixed Cell Focus	6 (12%)	6 (12%)	8 (16%)	18 (36%)
Pigmentation	1 (2%)			
Bile Duct, Cyst	4 (8%)	11 (22%)	5 (10%)	5 (10%)
Bile Duct, Cyst, Multiple	2 (4%)		1 (2%)	2 (4%)
Bile Duct, Dilatation			1 (2%)	
Bile Duct, Hyperplasia	14 (28%)	13 (26%)	17 (34%)	13 (26%)
Centrilobular, Hepatocyte, Hypertrophy		1 (2%)	10 (20%)	45 (90%)
Hepatocyte, Necrosis	2 (4%)		2 (4%)	5 (10%)
Hepatocyte, Periportal, Hypertrophy			1 (2%)	
Serosa, Inflammation, Chronic Active				1 (2%)
Vein, Thrombosis				1 (2%)
Mesentery	(1)	(1)	(1)	(2)
Artery, Inflammation				1 (50%)
Fat, Necrosis	1 (100%)			
Pancreas	(50)	(50)	(50)	(50)
Inflammation, Chronic				1 (2%)
Acinus, Atrophy	2 (4%)	4 (8%)		2 (4%)
Acinus, Basophilic Focus			1 (2%)	
Acinus, Hyperplasia	1 (2%)	1 (2%)		4 (8%)
Artery, Inflammation	3 (6%)	7 (14%)	5 (10%)	5 (10%)
Duct, Cyst		1 (2%)		
Salivary Glands	(50)	(50)	(50)	(50)
Atrophy				1 (2%)
Inflammation	1 (2%)			
Parotid Gland, Hyperplasia	1 (2%)			
Stomach, Forestomach	(50)	(50)	(50)	(50)
Inflammation, Chronic Active		2 (4%)		1 (2%)
Epithelium, Hyperplasia			1 (2%)	3 (6%)
Serosa, Inflammation, Chronic Active				1 (2%)
Stomach, Glandular	(50)	(50)	(50)	(50)
Ectopic Tissue	1 (2%)			

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Experiment Number: 10472 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

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

p-Chloro-a,a,a-trifluorotoluene

CAS Number: 98-56-6

Date Report Requested: 05/16/2016

Time Report Requested: 11:15:09

First Dose M/F: 01/17/11 / 01/17/11

Lab: BNW

Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Artery, Inflammation			1 (2%)	
Tooth	(0)	(1)	(0)	(0)
Inflammation, Suppurative		1 (100%)		

## CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(50)	(50)	(50)
Aorta, Inflammation		2 (4%)		
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	16 (32%)	12 (24%)	15 (30%)	17 (34%)
Artery, Inflammation				1 (2%)
Lymphatic, Pericardium, Inflammation		1 (2%)		

## ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Angiectasis	9 (18%)	4 (8%)	8 (16%)	7 (14%)
Degeneration, Cystic	9 (18%)	12 (24%)	12 (24%)	14 (28%)
Hematopoietic Cell Proliferation	1 (2%)		1 (2%)	
Hyperplasia	4 (8%)	7 (14%)	8 (16%)	12 (24%)
Hypertrophy	15 (30%)	17 (34%)	11 (22%)	20 (40%)
Necrosis	3 (6%)		2 (4%)	2 (4%)
Thrombosis	4 (8%)		2 (4%)	2 (4%)
Adrenal Medulla	(49)	(50)	(50)	(50)
Angiectasis	1 (2%)			
Degeneration	1 (2%)			
Hyperplasia	17 (35%)	25 (50%)	34 (68%)	36 (72%)
Islets, Pancreatic	(50)	(50)	(50)	(50)
Hyperplasia		1 (2%)		
Parathyroid Gland	(45)	(44)	(48)	(42)
Fibrosis			1 (2%)	4 (10%)
Hyperplasia			1 (2%)	1 (2%)
Pituitary Gland	(50)	(50)	(50)	(50)
Angiectasis	1 (2%)	1 (2%)		2 (4%)
Cyst			1 (2%)	1 (2%)

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**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** RATS/HSD

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMICAL SITE(a)**  
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Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Pars Distalis, Hyperplasia	15 (30%)	14 (28%)	16 (32%)	17 (34%)
Pars Distalis, Vacuolization Cytoplasmic			1 (2%)	
Pars Intermedia, Hyperplasia	1 (2%)	1 (2%)		
Thyroid Gland	(50)	(50)	(50)	(50)
Inflammation, Chronic Active		1 (2%)		
Ultimobranchial Cyst	3 (6%)	1 (2%)	1 (2%)	1 (2%)
Ultimobranchial Cyst, Multiple			1 (2%)	
C-cell, Hyperplasia	16 (32%)	15 (30%)	21 (42%)	13 (26%)
Follicular Cell, Hyperplasia		1 (2%)	1 (2%)	

**GENERAL BODY SYSTEM**

None

**GENITAL SYSTEM**

Clitoral Gland	(50)	(50)	(49)	(50)
Cyst	3 (6%)	4 (8%)	2 (4%)	7 (14%)
Inflammation	13 (26%)	21 (42%)	15 (31%)	16 (32%)
Ovary	(50)	(50)	(50)	(50)
Cyst	11 (22%)	7 (14%)	8 (16%)	10 (20%)
Fibrosis	1 (2%)			
Inflammation	1 (2%)			
Inflammation, Suppurative			1 (2%)	
Artery, Inflammation	1 (2%)	1 (2%)		
Granulosa Cell, Hyperplasia				1 (2%)
Mesothelium, Hyperplasia	1 (2%)			
Uterus	(50)	(50)	(50)	(50)
Adenomyosis	1 (2%)		2 (4%)	3 (6%)
Bacterium	1 (2%)			
Dilatation	1 (2%)	3 (6%)	3 (6%)	
Hemorrhage	2 (4%)		2 (4%)	
Inflammation, Suppurative	1 (2%)		2 (4%)	2 (4%)
Inflammation, Chronic Active	2 (4%)	3 (6%)	1 (2%)	
Metaplasia, Squamous	4 (8%)	6 (12%)	10 (20%)	1 (2%)

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Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Necrosis			1 (2%)	
Prolapse	1 (2%)			
Thrombosis			1 (2%)	
Artery, Inflammation, Chronic				1 (2%)
Artery, Necrosis, Fibrinoid				1 (2%)
Cervix, Cyst, Squamous, Multiple	1 (2%)			
Cervix, Cyst, Squamous		1 (2%)		1 (2%)
Cervix, Hyperplasia, Squamous		2 (4%)		
Cervix, Hypertrophy, Stromal	1 (2%)			1 (2%)
Endometrium, Atypical Hyperplasia			1 (2%)	3 (6%)
Endometrium, Erosion		1 (2%)		
Endometrium, Hyperplasia, Cystic	41 (82%)	34 (68%)	31 (62%)	22 (44%)
Serosa, Fibrosis		1 (2%)		
Serosa, Inflammation, Chronic Active				1 (2%)
Vagina	(46)	(48)	(48)	(38)
Cyst, Squamous			1 (2%)	
Hyperplasia, Stromal		1 (2%)		
Hyperplasia, Granular Cell	1 (2%)			
Inflammation, Suppurative		1 (2%)	1 (2%)	2 (5%)
Inflammation, Chronic			1 (2%)	
Ulcer			1 (2%)	
Artery, Inflammation, Chronic Active		1 (2%)		

**HEMATOPOIETIC SYSTEM**

Bone Marrow	(50)	(50)	(50)	(50)
Atrophy		1 (2%)		
Lymph Node	(2)	(6)	(5)	(3)
Congestion		1 (17%)		
Hyperplasia		1 (17%)		
Iliac, Congestion			1 (20%)	
Iliac, Ectasia				1 (33%)
Iliac, Hyperplasia		1 (17%)	2 (40%)	
Lumbar, Congestion	1 (50%)	1 (17%)		
Lumbar, Hyperplasia		1 (17%)		

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Lab: BNW

Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Pancreatic, Hyperplasia		1 (17%)		
Renal, Congestion	1 (50%)	1 (17%)	2 (40%)	
Renal, Ectasia		1 (17%)		
Lymph Node, Bronchial	(32)	(27)	(22)	(20)
Lymph Node, Mandibular	(49)	(50)	(50)	(50)
Hyperplasia	2 (4%)			
Lymph Node, Mediastinal	(50)	(50)	(50)	(49)
Congestion		1 (2%)		
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Congestion	1 (2%)			
Artery, Inflammation				1 (2%)
Spleen	(50)	(50)	(50)	(50)
Hematopoietic Cell Proliferation	31 (62%)	31 (62%)	38 (76%)	36 (72%)
Inflammation		1 (2%)		
Capsule, Fibrosis				1 (2%)
Red Pulp, Infiltration Cellular, Histiocyte				1 (2%)
Thymus	(50)	(48)	(49)	(49)
Atrophy	44 (88%)	44 (92%)	43 (88%)	48 (98%)
Cyst	1 (2%)		1 (2%)	
Hyperplasia, Lymphoid		1 (2%)		
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(50)	(50)	(50)	(50)
Cyst			1 (2%)	1 (2%)
Hyperplasia, Cystic	2 (4%)	7 (14%)	1 (2%)	1 (2%)
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	1 (2%)		3 (6%)	
Inflammation				1 (2%)
Ulcer	3 (6%)			
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)
Skeletal Muscle	(3)	(6)	(1)	(3)

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Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Hemorrhage	1 (33%)			
<b>NERVOUS SYSTEM</b>				
Brain	(50)	(50)	(50)	(50)
Hypothalamus, Compression	7 (14%)	7 (14%)	6 (12%)	1 (2%)
Unilateral, Inflammation, Granulomatous		1 (2%)		
Unilateral, Necrosis		1 (2%)		
Peripheral Nerve	(1)	(4)	(2)	(1)
Inflammation			1 (50%)	
Spinal Cord	(1)	(4)	(1)	(1)
Cyst Epithelial Inclusion		1 (25%)		
Axon, Nerve, Degeneration		1 (25%)		
<b>RESPIRATORY SYSTEM</b>				
Larynx	(50)	(50)	(50)	(50)
Bacterium				1 (2%)
Fibrosis				1 (2%)
Foreign Body				1 (2%)
Inflammation	1 (2%)	2 (4%)	2 (4%)	4 (8%)
Inflammation, Chronic Active				1 (2%)
Necrosis				1 (2%)
Squamous Epithelium, Hyperplasia	2 (4%)			1 (2%)
Lung	(50)	(50)	(50)	(50)
Fibrosis	11 (22%)	17 (34%)	24 (48%)	28 (56%)
Hemorrhage	12 (24%)	11 (22%)	18 (36%)	26 (52%)
Inflammation, Chronic	35 (70%)	42 (84%)	48 (96%)	46 (92%)
Metaplasia, Osseous	5 (10%)	4 (8%)	4 (8%)	2 (4%)
Metaplasia, Squamous	1 (2%)	2 (4%)	2 (4%)	
Alveolar Epithelium, Hyperplasia	2 (4%)		1 (2%)	1 (2%)
Alveolus, Infiltration Cellular, Histiocyte	35 (70%)	31 (62%)	36 (72%)	33 (66%)
Artery, Mediastinum, Inflammation, Chronic				1 (2%)
Artery, Mediastinum, Necrosis, Fibrinoid				1 (2%)
Bronchiole, Hyperplasia			1 (2%)	

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Experiment Number: 10472 - 03

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Lab: BNW

Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Mediastinum, Inflammation, Chronic		1 (2%)		
Nose	(50)	(50)	(50)	(50)
Foreign Body		1 (2%)		1 (2%)
Inflammation	2 (4%)	3 (6%)	6 (12%)	2 (4%)
Inflammation, Acute		1 (2%)		
Nasopharyngeal Duct, Inflammation, Suppurative			1 (2%)	
Olfactory Epithelium, Accumulation, Hyaline Droplet	40 (80%)	36 (72%)	40 (80%)	30 (60%)
Olfactory Epithelium, Degeneration		1 (2%)	2 (4%)	
Olfactory Epithelium, Hemorrhage				1 (2%)
Respiratory Epithelium, Accumulation, Hyaline Droplet				1 (2%)
Respiratory Epithelium, Inflammation				1 (2%)
Sinus, Polyp, Inflammatory	1 (2%)			
Trachea	(50)	(50)	(50)	(50)
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(50)	(50)	(50)	(50)
Cornea, Inflammation	1 (2%)	1 (2%)		
Harderian Gland	(50)	(50)	(50)	(50)
Atrophy	2 (4%)			1 (2%)
Hyperplasia				3 (6%)
Inflammation	1 (2%)	1 (2%)	4 (8%)	2 (4%)
Zymbal's Gland	(0)	(1)	(1)	(2)
<b>URINARY SYSTEM</b>				
Kidney	(50)	(50)	(50)	(50)
Cyst	1 (2%)	1 (2%)	2 (4%)	2 (4%)
Infarct			1 (2%)	
Inflammation	1 (2%)			
Nephropathy	44 (88%)	49 (98%)	49 (98%)	47 (94%)
Artery, Inflammation				1 (2%)

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Harlan Sprague Dawley RATS FEMALE	Control	100 ppm	300 ppm	1000 ppm
Interstitial, Inflammation, Chronic Active	1 (2%)		1 (2%)	
Pelvis, Inflammation, Chronic Active	1 (2%)		1 (2%)	
Renal Tubule, Hyperplasia			2 (4%)	
Urinary Bladder	(50)	(50)	(50)	(50)
Polyp, Inflammatory				1 (2%)

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\*\*\* END OF REPORT \*\*\*

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