

TDMS No. 99017 - 05

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344/N

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

Diethylamine

CAS Number: 109-89-7

Date Report Requested: 01/13/2010

Time Report Requested: 11:20:13

First Dose M/F: 08/25/03 / 08/25/03

Lab: BNW

F3_R2

C Number: C99017
Lock Date: 07/24/2006
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 2.2.0

FISCHER 344 RATS MALE

CONTROL

31 PPM

62.5 PPM

125 PPM

Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	19	24	20	13
Natural Death	3	5	5	1
Survivors				
Terminal Sacrifice	28	21	25	36
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(49)	(47)	(49)	(50)
Necrosis	1 (2%)		1 (2%)	
Serosa, Inflammation, Suppurative		1 (2%)		
Intestine Small, Duodenum	(49)	(49)	(49)	(50)
Intestine Small, Ileum	(48)	(47)	(46)	(49)
Necrosis			1 (2%)	
Intestine Small, Jejunum	(48)	(47)	(48)	(50)
Inflammation, Suppurative		1 (2%)		
Ulcer		1 (2%)		
Artery, Inflammation, Chronic				1 (2%)
Liver	(50)	(50)	(50)	(50)
Angiectasis			1 (2%)	
Basophilic Focus	2 (4%)	2 (4%)	3 (6%)	5 (10%)
Basophilic Focus, Multiple	6 (12%)	1 (2%)	1 (2%)	
Clear Cell Focus	3 (6%)	8 (16%)	2 (4%)	4 (8%)
Clear Cell Focus, Multiple	9 (18%)	1 (2%)	2 (4%)	6 (12%)
Degeneration, Cystic	1 (2%)			
Hepatodiaphragmatic Nodule	4 (8%)	2 (4%)	4 (8%)	
Necrosis	1 (2%)	2 (4%)	1 (2%)	
Vacuolization Cytoplasmic	5 (10%)	4 (8%)	5 (10%)	2 (4%)
Bile Duct, Cyst		1 (2%)		
Bile Duct, Dilatation				1 (2%)
Bile Duct, Hyperplasia			1 (2%)	1 (2%)

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

FISCHER 344 RATS MALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Kupffer Cell, Pigmentation	1 (2%)			
Periportal, Inflammation, Chronic	1 (2%)	1 (2%)	1 (2%)	
Periportal, Pigmentation				1 (2%)
Mesentery	(10)	(13)	(16)	(10)
Inflammation, Chronic			1 (6%)	
Necrosis	9 (90%)	12 (92%)	13 (81%)	10 (100%)
Fat, Hemorrhage	1 (10%)	1 (8%)	1 (6%)	
Pancreas	(49)	(50)	(50)	(50)
Acinus, Atrophy	24 (49%)	22 (44%)	29 (58%)	31 (62%)
Acinus, Hyperplasia				1 (2%)
Duct, Cyst	1 (2%)			1 (2%)
Salivary Glands	(50)	(50)	(50)	(50)
Duct, Cyst	1 (2%)			
Stomach, Forestomach	(50)	(50)	(50)	(50)
Diverticulum	1 (2%)			
Hyperplasia, Squamous	2 (4%)			
Inflammation, Suppurative			1 (2%)	
Ulcer	1 (2%)	4 (8%)	2 (4%)	2 (4%)
Muscularis, Degeneration				1 (2%)
Stomach, Glandular	(50)	(50)	(50)	(50)
Erosion			3 (6%)	
Inflammation, Chronic Active				1 (2%)
Tongue	(0)	(0)	(1)	(0)
Epithelium, Hyperplasia			1 (100%)	

CARDIOVASCULAR SYSTEM

Blood Vessel	(0)	(0)	(0)	(1)
Adventitia, Inflammation, Chronic				1 (100%)
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	23 (46%)	24 (48%)	21 (42%)	25 (50%)
Atrium, Thrombosis	1 (2%)	4 (8%)	3 (6%)	
Atrium, Ventricle, Thrombosis			1 (2%)	
Myocardium, Mineralization				1 (2%)
Ventricle, Thrombosis			1 (2%)	

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

FISCHER 344 RATS MALE

CONTROL

31 PPM

62.5 PPM

125 PPM

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Atrophy	1 (2%)	1 (2%)	1 (2%)	
Hyperplasia	15 (30%)	17 (34%)	10 (20%)	12 (24%)
Hyperplasia, Focal		1 (2%)	1 (2%)	
Necrosis		1 (2%)		
Vacuolization Cytoplasmic	9 (18%)	7 (14%)	16 (32%)	6 (12%)
Adrenal Medulla	(50)	(50)	(50)	(49)
Hyperplasia	15 (30%)	18 (36%)	25 (50%)	17 (35%)
Bilateral, Hyperplasia	1 (2%)			1 (2%)
Islets, Pancreatic	(50)	(50)	(50)	(50)
Hyperplasia	1 (2%)	1 (2%)		1 (2%)
Pituitary Gland	(50)	(48)	(50)	(50)
Atrophy	1 (2%)		1 (2%)	
Cyst	2 (4%)			1 (2%)
Hemorrhage	1 (2%)	1 (2%)	1 (2%)	
Pars Distalis, Hyperplasia	7 (14%)	9 (19%)	9 (18%)	7 (14%)
Thyroid Gland	(50)	(50)	(50)	(50)
Cyst				1 (2%)
Ultimobranchial Cyst				1 (2%)
C-cell, Hyperplasia	17 (34%)	13 (26%)	7 (14%)	11 (22%)
Follicular Cell, Hyperplasia	1 (2%)		1 (2%)	1 (2%)

GENERAL BODY SYSTEM

Peritoneum	(0)	(1)	(1)	(1)
Mesothelium, Tunica Vaginalis, Hyperplasia				1 (100%)

GENITAL SYSTEM

Epididymis	(50)	(50)	(50)	(50)
Necrosis, Fatty	1 (2%)			

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FISCHER 344 RATS MALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Preputial Gland	(50)	(50)	(50)	(50)
Cyst	2 (4%)			2 (4%)
Hyperplasia		3 (6%)	1 (2%)	1 (2%)
Inflammation, Suppurative		1 (2%)		1 (2%)
Prostate	(50)	(50)	(50)	(50)
Hyperplasia	2 (4%)		1 (2%)	4 (8%)
Inflammation, Suppurative	29 (58%)	28 (56%)	29 (58%)	26 (52%)
Seminal Vesicle	(50)	(50)	(50)	(50)
Cyst			1 (2%)	
Inflammation, Suppurative			1 (2%)	2 (4%)
Testes	(50)	(50)	(50)	(50)
Mineralization		2 (4%)	1 (2%)	
Artery, Inflammation, Chronic Active	1 (2%)			1 (2%)
Germinal Epithelium, Atrophy	9 (18%)	11 (22%)	7 (14%)	15 (30%)
Germinal Epithelium, Mineralization	1 (2%)			
Interstitial Cell, Hyperplasia	24 (48%)	18 (36%)	14 (28%)	17 (34%)
Tunic, Hyperplasia				1 (2%)

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia, Reticulum Cell	2 (4%)		1 (2%)	
Lymph Node	(10)	(5)	(10)	(10)
Ectasia		1 (20%)		
Deep Cervical, Hemorrhage				1 (10%)
Deep Cervical, Pigmentation				1 (10%)
Pancreatic, Infiltration Cellular, Histiocyte	1 (10%)			
Pancreatic, Pigmentation	1 (10%)			
Lymph Node, Bronchial	(4)	(4)	(3)	(5)
Ectasia				1 (20%)
Hyperplasia, Lymphoid		1 (25%)		
Pigmentation				1 (20%)
Lymph Node, Mandibular	(0)	(0)	(1)	(1)
Ectasia				1 (100%)
Lymph Node, Mediastinal	(30)	(24)	(35)	(29)

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

FISCHER 344 RATS MALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Infiltration Cellular, Histiocyte	1 (3%)			1 (3%)
Lymph Node, Mesenteric	(49)	(50)	(50)	(49)
Ectasia		1 (2%)		
Hyperplasia, Lymphoid				1 (2%)
Spleen	(50)	(50)	(50)	(50)
Hematopoietic Cell Proliferation	1 (2%)	1 (2%)	3 (6%)	1 (2%)
Hemorrhage	2 (4%)	2 (4%)	2 (4%)	
Hyperplasia, Lymphoid	1 (2%)			
Necrosis	1 (2%)	3 (6%)	2 (4%)	3 (6%)
Thrombosis	1 (2%)			
Capsule, Fibrosis	1 (2%)			
Thymus	(44)	(43)	(47)	(45)
Hyperplasia, Tubular	1 (2%)			

INTEGUMENTARY SYSTEM

Mammary Gland	(50)	(50)	(50)	(49)
Galactocele	1 (2%)	1 (2%)	3 (6%)	2 (4%)
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion		5 (10%)	3 (6%)	1 (2%)
Hyperkeratosis			1 (2%)	
Inflammation, Suppurative		1 (2%)		
Ulcer		2 (4%)	1 (2%)	1 (2%)
Sebaceous Gland, Hyperplasia	1 (2%)			

MUSCULOSKELETAL SYSTEM

Bone	(50)	(50)	(50)	(50)
Cranium, Fracture				1 (2%)
Skeletal Muscle	(0)	(1)	(1)	(1)

NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
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FISCHER 344 RATS MALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Compression	9 (18%)	11 (22%)	6 (12%)	4 (8%)
Gliosis	2 (4%)			
Hemorrhage	2 (4%)	8 (16%)	5 (10%)	
Hydrocephalus	1 (2%)	1 (2%)	1 (2%)	
Inflammation, Suppurative				1 (2%)
Necrosis				1 (2%)

RESPIRATORY SYSTEM

Larynx	(50)	(50)	(50)	(50)
Foreign Body	2 (4%)	3 (6%)	3 (6%)	2 (4%)
Inflammation, Suppurative	1 (2%)	1 (2%)	1 (2%)	4 (8%)
Inflammation, Chronic	1 (2%)			
Epiglottis, Hyperplasia			1 (2%)	
Epiglottis, Metaplasia, Squamous		1 (2%)		
Respiratory Epithelium, Metaplasia, Squamous				1 (2%)
Lung	(50)	(50)	(50)	(50)
Edema	1 (2%)			
Hemorrhage	5 (10%)	3 (6%)	4 (8%)	5 (10%)
Inflammation, Suppurative		4 (8%)		2 (4%)
Inflammation, Chronic	8 (16%)	8 (16%)	8 (16%)	10 (20%)
Metaplasia, Osseous		1 (2%)		2 (4%)
Alveolar Epithelium, Hyperplasia	6 (12%)	7 (14%)	6 (12%)	5 (10%)
Alveolar Epithelium, Metaplasia, Squamous				1 (2%)
Alveolus, Infiltration Cellular, Histiocyte	15 (30%)	12 (24%)	19 (38%)	20 (40%)
Alveolus, Metaplasia, Osseous				1 (2%)
Alveolus, Mineralization				1 (2%)
Alveolus, Proteinosis	1 (2%)		2 (4%)	1 (2%)
Artery, Thrombosis		2 (4%)		
Bronchiole, Hyperplasia				2 (4%)
Interstitial, Fibrosis	1 (2%)			3 (6%)
Nose	(49)	(50)	(50)	(50)
Foreign Body	6 (12%)	3 (6%)	4 (8%)	2 (4%)
Hemorrhage		1 (2%)		
Inflammation, Suppurative	5 (10%)	5 (10%)	10 (20%)	29 (58%)

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FISCHER 344 RATS MALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Inflammation, Chronic	1 (2%)			
Thrombosis				1 (2%)
Glands, Olfactory Epithelium, Accumulation, Hyaline Droplet				1 (2%)
Glands, Respiratory Epithelium, Accumulation, Hyaline Droplet	6 (12%)	45 (90%)	42 (84%)	45 (90%)
Glands, Respiratory Epithelium, Hyperplasia	44 (90%)	46 (92%)	46 (92%)	48 (96%)
Goblet Cell, Hyperplasia			2 (4%)	13 (26%)
Nasolacrimal Duct, Inflammation, Suppurative			1 (2%)	
Olfactory Epithelium, Accumulation, Hyaline Droplet	8 (16%)	49 (98%)	49 (98%)	42 (84%)
Olfactory Epithelium, Atrophy	2 (4%)	49 (98%)	50 (100%)	50 (100%)
Olfactory Epithelium, Degeneration, Hyaline		1 (2%)		1 (2%)
Olfactory Epithelium, Hyperplasia, Basal Cell			22 (44%)	50 (100%)
Olfactory Epithelium, Metaplasia, Squamous		2 (4%)		1 (2%)
Olfactory Epithelium, Necrosis		1 (2%)		2 (4%)
Olfactory Epithelium, Respiratory Metaplasia	2 (4%)	2 (4%)	2 (4%)	37 (74%)
Olfactory Epithelium, Vacuolization Cytoplasmic		2 (4%)	8 (16%)	1 (2%)
Respiratory Epithelium, Accumulation, Hyaline Droplet		29 (58%)	42 (84%)	11 (22%)
Respiratory Epithelium, Hyperplasia	5 (10%)	34 (68%)	35 (70%)	47 (94%)
Respiratory Epithelium, Inflammation, Chronic				1 (2%)
Respiratory Epithelium, Metaplasia, Squamous		2 (4%)	6 (12%)	26 (52%)
Respiratory Epithelium, Necrosis			1 (2%)	4 (8%)
Respiratory Epithelium, Ulcer			2 (4%)	22 (44%)
Respiratory Epithelium, Vacuolization Cytoplasmic		5 (10%)	8 (16%)	3 (6%)
Turbinate, Hyperostosis				3 (6%)
Turbinate, Necrosis			1 (2%)	19 (38%)
Pleura	(50)	(50)	(50)	(50)
Fibrosis	1 (2%)			
Hyperplasia		1 (2%)		
Inflammation, Chronic	3 (6%)	4 (8%)	3 (6%)	9 (18%)
Trachea	(50)	(50)	(50)	(50)

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FISCHER 344 RATS MALE	CONTROL	31 PPM	62.5 PPM	125 PPM
SPECIAL SENSES SYSTEM				
Eye	(49)	(50)	(50)	(50)
Anterior Chamber, Inflammation, Suppurative			1 (2%)	2 (4%)
Cornea, Fibrosis	1 (2%)			
Cornea, Hyperplasia				1 (2%)
Cornea, Inflammation, Suppurative			1 (2%)	5 (10%)
Cornea, Inflammation, Chronic				2 (4%)
Cornea, Inflammation, Chronic Active				1 (2%)
Cornea, Mineralization			1 (2%)	1 (2%)
Cornea, Vacuolization Cytoplasmic				3 (6%)
Lens, Cataract	1 (2%)	3 (6%)	1 (2%)	5 (10%)
Retina, Atrophy	1 (2%)	3 (6%)	1 (2%)	3 (6%)
Retina, Dysplasia				1 (2%)
Sclera, Metaplasia, Osseous	11 (22%)	9 (18%)	13 (26%)	6 (12%)
Sclera, Mineralization	1 (2%)	1 (2%)	1 (2%)	
Harderian Gland	(50)	(50)	(50)	(50)
Hyperplasia				1 (2%)
Inflammation, Chronic	1 (2%)	1 (2%)		2 (4%)
Zymbal's Gland	(43)	(39)	(41)	(40)
Duct, Hyperplasia	1 (2%)			1 (3%)

URINARY SYSTEM

Kidney	(50)	(50)	(50)	(50)
Nephropathy, Chronic	44 (88%)	39 (78%)	40 (80%)	39 (78%)
Cortex, Cyst	1 (2%)			
Cortex, Infarct		2 (4%)	2 (4%)	2 (4%)
Cortex, Renal Tubule, Accumulation, Hyaline Droplet	1 (2%)			
Cortex, Renal Tubule, Casts Granular, Focal	1 (2%)			
Cortex, Renal Tubule, Hyperplasia, Atypical				1 (2%)
Cortex, Renal Tubule, Mineralization		1 (2%)		
Cortex, Renal Tubule, Necrosis		1 (2%)		
Papilla, Mineralization	2 (4%)	3 (6%)		

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FISCHER 344 RATS MALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Pelvis, Dilatation		1 (2%)		
Pelvis, Inflammation, Suppurative				1 (2%)
Pelvis, Transitional Epithelium, Hyperplasia			2 (4%)	4 (8%)
Pelvis, Transitional Epithelium, Mineralization		1 (2%)	1 (2%)	
Urinary Bladder	(50)	(50)	(49)	(50)
Hemorrhage	1 (2%)	1 (2%)		
Infiltration Cellular, Histiocyte	1 (2%)			
Muscularis, Pigmentation	1 (2%)			
Transitional Epithelium, Hemorrhage			1 (2%)	
Transitional Epithelium, Hyperplasia	1 (2%)			2 (4%)

*** END OF MALE ***

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

FISCHER 344 RATS FEMALE	CONTROL	31 PPM	62.5 PPM	125 PPM
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	17	15	18	15
Natural Death	2	4	2	
Survivors				
Moribund Sacrifice			1	1
Terminal Sacrifice	31	31	29	34
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Intestine Large, Colon	(49)	(47)	(50)	(50)
Epithelium, Hyperplasia, Focal	1 (2%)			
Liver	(50)	(50)	(50)	(50)
Angiectasis	3 (6%)	1 (2%)	3 (6%)	3 (6%)
Basophilic Focus	3 (6%)	1 (2%)	4 (8%)	7 (14%)
Basophilic Focus, Multiple	17 (34%)	13 (26%)	19 (38%)	15 (30%)
Clear Cell Focus	8 (16%)	8 (16%)	6 (12%)	4 (8%)
Clear Cell Focus, Multiple	8 (16%)	1 (2%)	2 (4%)	3 (6%)
Degeneration, Cystic		1 (2%)		
Hemorrhage	1 (2%)		2 (4%)	
Hepatodiaphragmatic Nodule	9 (18%)	6 (12%)	2 (4%)	9 (18%)
Necrosis		1 (2%)	1 (2%)	
Thrombosis	1 (2%)			
Vacuolization Cytoplasmic	3 (6%)	8 (16%)	6 (12%)	2 (4%)
Artery, Inflammation			1 (2%)	
Bile Duct, Hyperplasia			1 (2%)	
Hepatocyte, Regeneration			1 (2%)	
Periportal, Inflammation, Chronic		1 (2%)		
Periportal, Pigmentation			1 (2%)	
Mesentery	(16)	(15)	(18)	(10)
Necrosis	15 (94%)	14 (93%)	17 (94%)	10 (100%)
Artery, Inflammation			1 (6%)	
Pancreas	(50)	(50)	(50)	(50)

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FISCHER 344 RATS FEMALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Inflammation, Chronic				1 (2%)
Acinus, Atrophy	1 (2%)	1 (2%)	1 (2%)	4 (8%)
Artery, Inflammation		1 (2%)	1 (2%)	
Stomach, Forestomach	(50)	(50)	(50)	(50)
Erosion		1 (2%)		
Hyperplasia, Squamous	1 (2%)			
Inflammation, Suppurative	2 (4%)			
Ulcer	1 (2%)	3 (6%)	1 (2%)	1 (2%)
Stomach, Glandular	(50)	(50)	(50)	(50)
Ulcer	1 (2%)	1 (2%)		
Tongue	(0)	(2)	(0)	(1)
Epithelium, Hyperplasia		1 (50%)		1 (100%)

CARDIOVASCULAR SYSTEM

Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	16 (32%)	17 (34%)	23 (46%)	16 (32%)
Atrium, Ventricle, Thrombosis	1 (2%)			

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Atrophy	1 (2%)			
Hemorrhage	1 (2%)			1 (2%)
Hyperplasia	12 (24%)	6 (12%)	15 (30%)	18 (36%)
Hyperplasia, Focal	1 (2%)	1 (2%)	3 (6%)	
Necrosis	1 (2%)	1 (2%)		
Vacuolization Cytoplasmic	14 (28%)	13 (26%)	13 (26%)	11 (22%)
Adrenal Medulla	(50)	(50)	(50)	(50)
Hyperplasia	6 (12%)	1 (2%)	2 (4%)	
Islets, Pancreatic	(50)	(50)	(50)	(50)
Hyperplasia		1 (2%)		
Parathyroid Gland	(43)	(42)	(48)	(48)
Pituitary Gland	(50)	(50)	(50)	(50)
Cyst		1 (2%)	1 (2%)	1 (2%)

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FISCHER 344 RATS FEMALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Hemorrhage	2 (4%)	2 (4%)		2 (4%)
Pars Distalis, Hyperplasia	9 (18%)	10 (20%)	7 (14%)	18 (36%)
Thyroid Gland	(50)	(50)	(50)	(50)
Ultimobranchial Cyst	1 (2%)			
C-cell, Hyperplasia	25 (50%)	18 (36%)	25 (50%)	21 (42%)
Follicular Cell, Hyperplasia	1 (2%)			

GENERAL BODY SYSTEM

Tissue NOS	(1)	(0)	(0)	(0)
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GENITAL SYSTEM

Clitoral Gland	(50)	(50)	(50)	(50)
Cyst	1 (2%)	1 (2%)	2 (4%)	4 (8%)
Hyperplasia	2 (4%)	5 (10%)	4 (8%)	6 (12%)
Inflammation, Chronic	1 (2%)			
Ovary	(50)	(50)	(50)	(50)
Cyst	7 (14%)	5 (10%)	4 (8%)	4 (8%)
Uterus	(50)	(50)	(50)	(50)
Hemorrhage			2 (4%)	1 (2%)
Thrombosis			1 (2%)	2 (4%)
Endometrium, Hyperplasia	1 (2%)	1 (2%)	1 (2%)	2 (4%)
Vagina	(1)	(0)	(0)	(0)
Cyst	1 (100%)			

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia, Reticulum Cell	2 (4%)	1 (2%)	1 (2%)	3 (6%)
Myelofibrosis	1 (2%)			
Lymph Node	(3)	(0)	(1)	(1)
Lymph Node, Bronchial	(4)	(1)	(5)	(7)
Hemorrhage		1 (100%)		

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FISCHER 344 RATS FEMALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Hyperplasia, Histiocytic Infiltration Cellular, Histiocyte	1 (25%)			1 (14%)
Lymph Node, Mandibular	(2)	(0)	(1)	(2)
Lymph Node, Mediastinal	(33)	(27)	(25)	(29)
Hyperplasia, Lymphoid Infiltration Cellular, Histiocyte				1 (3%)
Pigmentation				1 (3%)
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Spleen	(50)	(50)	(50)	(50)
Atrophy	1 (2%)			
Fibrosis		1 (2%)	1 (2%)	
Hematopoietic Cell Proliferation	7 (14%)	3 (6%)	4 (8%)	3 (6%)
Hemorrhage	1 (2%)			
Hyperplasia, Histiocytic Necrosis	1 (2%)	1 (2%)	1 (2%)	1 (2%)
Pigmentation	1 (2%)	1 (2%)		
Stromal Hyperplasia	1 (2%)			
Thymus	(48)	(44)	(40)	(47)
INTEGUMENTARY SYSTEM				
Mammary Gland	(50)	(50)	(50)	(50)
Galactocele	4 (8%)	3 (6%)	5 (10%)	3 (6%)
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	1 (2%)	1 (2%)	1 (2%)	2 (4%)
Ulcer	6 (12%)	2 (4%)	1 (2%)	3 (6%)
Subcutaneous Tissue, Cyst		1 (2%)		
Subcutaneous Tissue, Fibrosis			1 (2%)	
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Cranium, Inflammation, Suppurative				1 (2%)

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

FISCHER 344 RATS FEMALE	CONTROL	31 PPM	62.5 PPM	125 PPM
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Compression	12 (24%)	11 (22%)	14 (28%)	9 (18%)
Hemorrhage	4 (8%)	1 (2%)	2 (4%)	5 (10%)
Meninges, Hemorrhage	1 (2%)			
Meninges, Inflammation, Chronic			1 (2%)	
Ventricle, Hemorrhage	1 (2%)			
Spinal Cord	(0)	(0)	(1)	(0)
RESPIRATORY SYSTEM				
Larynx	(50)	(50)	(50)	(50)
Foreign Body	4 (8%)	6 (12%)	4 (8%)	1 (2%)
Inflammation, Suppurative	2 (4%)	1 (2%)	2 (4%)	2 (4%)
Epiglottis, Metaplasia, Squamous			2 (4%)	
Respiratory Epithelium, Metaplasia, Squamous		2 (4%)		
Lung	(50)	(50)	(50)	(50)
Hemorrhage	6 (12%)	2 (4%)	1 (2%)	2 (4%)
Inflammation, Chronic	4 (8%)	11 (22%)	7 (14%)	24 (48%)
Metaplasia, Osseous			1 (2%)	
Alveolar Epithelium, Hyperplasia	3 (6%)	6 (12%)	4 (8%)	3 (6%)
Alveolar Epithelium, Metaplasia, Squamous				1 (2%)
Alveolus, Infiltration Cellular, Histiocyte	13 (26%)	24 (48%)	27 (54%)	35 (70%)
Alveolus, Proteinosis			1 (2%)	2 (4%)
Bronchiole, Hyperplasia	1 (2%)	1 (2%)		
Interstitial, Fibrosis	1 (2%)	2 (4%)		2 (4%)
Perivascular, Infiltration Cellular, Lymphocyte			1 (2%)	
Nose	(50)	(49)	(50)	(50)
Foreign Body	6 (12%)	1 (2%)	1 (2%)	2 (4%)
Inflammation, Suppurative	6 (12%)	4 (8%)	15 (30%)	34 (68%)
Glands, Respiratory Epithelium, Accumulation, Hyaline Droplet	9 (18%)	46 (94%)	45 (90%)	44 (88%)
Glands, Respiratory Epithelium, Hyperplasia	45 (90%)	49 (100%)	48 (96%)	49 (98%)
Goblet Cell, Hyperplasia	1 (2%)		4 (8%)	20 (40%)

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

FISCHER 344 RATS FEMALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Nasolacrimal Duct, Inflammation, Suppurative	2 (4%)	2 (4%)		
Olfactory Epithelium, Accumulation, Hyaline Droplet	11 (22%)	49 (100%)	50 (100%)	48 (96%)
Olfactory Epithelium, Atrophy	1 (2%)	47 (96%)	48 (96%)	50 (100%)
Olfactory Epithelium, Hyperplasia				1 (2%)
Olfactory Epithelium, Hyperplasia, Basal Cell		3 (6%)	29 (58%)	48 (96%)
Olfactory Epithelium, Metaplasia, Squamous			1 (2%)	
Olfactory Epithelium, Mineralization				1 (2%)
Olfactory Epithelium, Necrosis		2 (4%)	3 (6%)	
Olfactory Epithelium, Respiratory Metaplasia	3 (6%)	1 (2%)	2 (4%)	19 (38%)
Olfactory Epithelium, Vacuolization Cytoplasmic		1 (2%)	4 (8%)	3 (6%)
Respiratory Epithelium, Accumulation, Hyaline Droplet	4 (8%)	48 (98%)	46 (92%)	39 (78%)
Respiratory Epithelium, Hyperplasia	7 (14%)	31 (63%)	41 (82%)	50 (100%)
Respiratory Epithelium, Inflammation, Chronic		1 (2%)		
Respiratory Epithelium, Metaplasia, Squamous	1 (2%)	1 (2%)	5 (10%)	39 (78%)
Respiratory Epithelium, Necrosis			1 (2%)	4 (8%)
Respiratory Epithelium, Ulcer				34 (68%)
Respiratory Epithelium, Vacuolization Cytoplasmic		1 (2%)	4 (8%)	3 (6%)
Turbinates, Hyperostosis				2 (4%)
Turbinates, Necrosis				32 (64%)
Pleura	(50)	(50)	(50)	(50)
Inflammation, Chronic	6 (12%)	14 (28%)	12 (24%)	21 (42%)

SPECIAL SENSES SYSTEM

Eye	(50)	(50)	(50)	(50)
Anterior Chamber, Inflammation, Suppurative				1 (2%)
Bilateral, Lens, Cataract			1 (2%)	
Cornea, Inflammation, Suppurative		2 (4%)	2 (4%)	1 (2%)
Cornea, Mineralization			1 (2%)	
Cornea, Vacuolization Cytoplasmic			1 (2%)	
Lens, Cataract	3 (6%)	2 (4%)	5 (10%)	4 (8%)
Retina, Atrophy	4 (8%)	2 (4%)	8 (16%)	6 (12%)

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FISCHER 344 RATS FEMALE	CONTROL	31 PPM	62.5 PPM	125 PPM
Sclera, Metaplasia, Osseous	4 (8%)	2 (4%)	2 (4%)	2 (4%)
Harderian Gland	(50)	(50)	(50)	(50)
Inflammation, Chronic			1 (2%)	
Zymbal's Gland	(40)	(38)	(42)	(33)

URINARY SYSTEM

Kidney	(50)	(50)	(50)	(50)
Nephropathy, Chronic	26 (52%)	31 (62%)	30 (60%)	24 (48%)
Cortex, Infarct			1 (2%)	1 (2%)
Cortex, Renal Tubule, Accumulation, Hyaline Droplet				1 (2%)
Cortex, Renal Tubule, Necrosis			1 (2%)	
Papilla, Mineralization	12 (24%)	13 (26%)	9 (18%)	4 (8%)
Pelvis, Transitional Epithelium, Hyperplasia		2 (4%)	2 (4%)	
Pelvis, Transitional Epithelium, Mineralization	2 (4%)			1 (2%)
Renal Tubule, Vacuolization Cytoplasmic		1 (2%)		
Urinary Bladder	(50)	(50)	(50)	(50)
Hemorrhage			1 (2%)	
Transitional Epithelium, Hyperplasia			1 (2%)	1 (2%)

*** END OF REPORT ***