

Experiment Number: 20303 - 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)

Vinylidene chloride
CAS Number: 75-35-4

Date Report Requested: 12/12/2011
Time Report Requested: 09:47:50
First Dose M/F: 06/06/05 / 06/06/05
Lab: BNW

F1_R2

NTP Study Number: C20303
Lock Date: 05/09/2008
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 2.5.0.0_004
PWG Approval Date: NONE

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	21	15	23	27
Natural Death	4	8	5	4
Survivors				
Terminal Sacrifice	25	27	22	19
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(49)	(49)	(50)
Hyperplasia, Squamous				1 (2%)
Intestine Large, Cecum	(48)	(44)	(45)	(46)
Inflammation, Acute	1 (2%)	1 (2%)		
Necrosis	1 (2%)			
Arteriole, Inflammation			1 (2%)	
Intestine Large, Colon	(47)	(46)	(47)	(48)
Arteriole, Inflammation			1 (2%)	
Intestine Large, Rectum	(46)	(47)	(46)	(49)
Thrombosis			1 (2%)	
Intestine Small, Duodenum	(47)	(45)	(45)	(49)
Intestine Small, Ileum	(47)	(45)	(45)	(47)
Intestine Small, Jejunum	(47)	(43)	(45)	(47)
Liver	(50)	(50)	(50)	(50)
Angiectasis		2 (4%)		
Basophilic Focus	15 (30%)	7 (14%)	5 (10%)	5 (10%)
Clear Cell Focus	22 (44%)	23 (46%)	19 (38%)	15 (30%)
Cyst			1 (2%)	
Degeneration, Cystic	2 (4%)	5 (10%)	7 (14%)	12 (24%)
Eosinophilic Focus	3 (6%)	6 (12%)	7 (14%)	5 (10%)
Fatty Change, Diffuse	4 (8%)	19 (38%)	18 (36%)	26 (52%)
Hepatodiaphragmatic Nodule	1 (2%)	1 (2%)	1 (2%)	5 (10%)
Inflammation, Acute				1 (2%)
Inflammation, Chronic	28 (56%)	46 (92%)	46 (92%)	44 (88%)

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

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
Inflammation, Chronic Active	1 (2%)			
Mixed Cell Focus	1 (2%)	1 (2%)	8 (16%)	6 (12%)
Necrosis	2 (4%)	6 (12%)	8 (16%)	6 (12%)
Bile Duct, Hyperplasia	38 (76%)	23 (46%)	16 (32%)	14 (28%)
Bile Duct, Inflammation, Suppurative			1 (2%)	
Mesentery	(16)	(15)	(21)	(23)
Inflammation, Chronic Active	2 (13%)		1 (5%)	
Fat, Necrosis	13 (81%)	10 (67%)	14 (67%)	12 (52%)
Pancreas	(50)	(50)	(50)	(49)
Atrophy	21 (42%)	16 (32%)	25 (50%)	20 (41%)
Basophilic Focus	1 (2%)			
Hyperplasia	4 (8%)	5 (10%)	2 (4%)	7 (14%)
Inflammation, Chronic Active			1 (2%)	1 (2%)
Salivary Glands	(50)	(50)	(50)	(50)
Atrophy		1 (2%)		
Stomach, Forestomach	(50)	(50)	(50)	(50)
Hyperplasia, Squamous		2 (4%)	2 (4%)	1 (2%)
Inflammation, Chronic Active		2 (4%)		
Mineralization	1 (2%)			
Ulcer	4 (8%)	3 (6%)	1 (2%)	6 (12%)
Stomach, Glandular	(49)	(50)	(49)	(50)
Mineralization	1 (2%)		1 (2%)	
Necrosis			3 (6%)	3 (6%)
Ulcer			1 (2%)	1 (2%)
Tongue	(0)	(1)	(0)	(2)
Hyperplasia, Squamous				2 (100%)
Tooth	(1)	(0)	(0)	(0)
Dysplasia	1 (100%)			

CARDIOVASCULAR SYSTEM

Blood Vessel	(1)	(0)	(1)	(0)
Aorta, Mineralization	1 (100%)		1 (100%)	
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	42 (84%)	41 (82%)	39 (78%)	35 (70%)

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
Inflammation, Chronic Active		1 (2%)		
Mineralization	1 (2%)			
Thrombosis	3 (6%)	3 (6%)	6 (12%)	8 (16%)

ENDOCRINE SYSTEM

Adrenal Cortex	(49)	(50)	(49)	(50)
Hyperplasia	26 (53%)	27 (54%)	27 (55%)	27 (54%)
Hypertrophy	1 (2%)	2 (4%)	2 (4%)	4 (8%)
Necrosis		2 (4%)		
Adrenal Medulla	(49)	(50)	(48)	(50)
Hyperplasia	25 (51%)	22 (44%)	17 (35%)	29 (58%)
Bilateral, Hyperplasia			1 (2%)	
Islets, Pancreatic	(50)	(50)	(50)	(49)
Hyperplasia	1 (2%)	3 (6%)	3 (6%)	3 (6%)
Parathyroid Gland	(50)	(49)	(47)	(45)
Hyperplasia	1 (2%)	2 (4%)	1 (2%)	2 (4%)
Pituitary Gland	(50)	(49)	(49)	(50)
Angiectasis				1 (2%)
Pars Distalis, Angiectasis	2 (4%)			1 (2%)
Pars Distalis, Hemorrhage		1 (2%)		
Pars Distalis, Hyperplasia	10 (20%)	13 (27%)	14 (29%)	9 (18%)
Pars Intermedia, Angiectasis	1 (2%)			
Pars Intermedia, Hyperplasia	1 (2%)			
Thyroid Gland	(50)	(49)	(49)	(48)
C-cell, Hyperplasia	15 (30%)	16 (33%)	19 (39%)	19 (40%)
Follicular Cell, Hyperplasia	2 (4%)		2 (4%)	1 (2%)

GENERAL BODY SYSTEM

Peritoneum	(0)	(2)	(4)	(3)
Mesothelium, Hyperplasia		1 (50%)		
Tissue NOS	(0)	(0)	(0)	(1)

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
GENITAL SYSTEM				
Coagulating Gland	(0)	(0)	(0)	(3)
Hyperplasia				2 (67%)
Inflammation, Suppurative				1 (33%)
Epididymis	(50)	(50)	(50)	(50)
Degeneration				1 (2%)
Granuloma Sperm		1 (2%)		
Hyperplasia, Mesothelium		3 (6%)	1 (2%)	
Penis	(0)	(0)	(1)	(0)
Inflammation, Suppurative			1 (100%)	
Preputial Gland	(50)	(49)	(49)	(50)
Hyperplasia	1 (2%)	1 (2%)		
Prostate	(50)	(50)	(50)	(50)
Hyperplasia	5 (10%)	4 (8%)	7 (14%)	5 (10%)
Inflammation, Suppurative	4 (8%)	5 (10%)	9 (18%)	8 (16%)
Seminal Vesicle	(48)	(50)	(48)	(48)
Hyperplasia			1 (2%)	
Testes	(50)	(50)	(50)	(50)
Atrophy	9 (18%)	10 (20%)	13 (26%)	4 (8%)
Hemorrhage	1 (2%)	1 (2%)		
Hyperplasia, Mesothelium		2 (4%)		
Arteriole, Inflammation		1 (2%)	1 (2%)	
Interstitial Cell, Hyperplasia	4 (8%)	4 (8%)	6 (12%)	3 (6%)
Tunic, Hyperplasia		2 (4%)	2 (4%)	2 (4%)
HEMATOPOIETIC SYSTEM				
Bone Marrow	(49)	(49)	(48)	(49)
Hyperplasia, Reticulum Cell	1 (2%)			
Lymph Node	(6)	(4)	(9)	(7)
Pancreatic, Congestion			1 (11%)	
Pancreatic, Hyperplasia, Lymphoid	1 (17%)			1 (14%)
Pancreatic, Infiltration Cellular, Histiocyte			1 (11%)	
Lymph Node, Bronchial	(8)	(9)	(9)	(9)

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
Congestion			1 (11%)	
Ectasia		1 (11%)	2 (22%)	
Hyperplasia, Lymphoid	1 (13%)			
Infiltration Cellular, Histiocyte				1 (11%)
Lymph Node, Mandibular	(1)	(1)	(1)	(0)
Lymph Node, Mediastinal	(28)	(21)	(24)	(30)
Congestion			1 (4%)	
Ectasia	1 (4%)			
Hyperplasia, Lymphoid	2 (7%)		2 (8%)	2 (7%)
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Congestion			1 (2%)	
Ectasia				1 (2%)
Hyperplasia, Lymphoid	1 (2%)		1 (2%)	1 (2%)
Inflammation, Granulomatous				1 (2%)
Spleen	(50)	(50)	(50)	(50)
Fibrosis	3 (6%)		2 (4%)	4 (8%)
Hematopoietic Cell Proliferation	3 (6%)	1 (2%)	1 (2%)	
Hyperplasia, Lymphoid				1 (2%)
Hyperplasia, Stromal	1 (2%)			
Necrosis		1 (2%)	2 (4%)	2 (4%)
Capsule, Hyperplasia			1 (2%)	
Thymus	(42)	(43)	(41)	(44)
Infiltration Cellular, Polymorphonuclear				1 (2%)
INTEGUMENTARY SYSTEM				
Mammary Gland	(36)	(29)	(24)	(32)
Hyperplasia		1 (3%)		
Skin	(50)	(50)	(49)	(50)
Cyst Epithelial Inclusion	4 (8%)	2 (4%)	2 (4%)	
Hyperkeratosis		1 (2%)		
Hyperplasia, Squamous	1 (2%)			
Inflammation, Acute			1 (2%)	
Inflammation, Chronic Active	2 (4%)		1 (2%)	

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Skeletal Muscle	(3)	(4)	(7)	(11)
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Hemorrhage	1 (2%)			
Peripheral Nerve	(2)	(0)	(1)	(0)
Spinal Cord	(2)	(0)	(1)	(0)
RESPIRATORY SYSTEM				
Larynx	(50)	(49)	(49)	(49)
Inflammation, Chronic Active	1 (2%)	1 (2%)		1 (2%)
Metaplasia, Squamous				1 (2%)
Lung	(50)	(50)	(50)	(50)
Foreign Body	1 (2%)			
Inflammation, Acute		1 (2%)		
Inflammation, Chronic Active	2 (4%)		1 (2%)	
Metaplasia, Osseous				1 (2%)
Mineralization	1 (2%)		1 (2%)	
Thrombosis	1 (2%)	1 (2%)	2 (4%)	
Alveolar Epithelium, Hyperplasia	7 (14%)	18 (36%)	14 (28%)	14 (28%)
Alveolar Epithelium, Metaplasia, Squamous			1 (2%)	
Alveolar Epithelium, Metaplasia, Mucous			1 (2%)	
Mediastinum, Inflammation, Granulomatous	1 (2%)			
Nose	(49)	(50)	(50)	(50)
Foreign Body	2 (4%)	2 (4%)	2 (4%)	5 (10%)
Hyperplasia				1 (2%)
Inflammation, Acute	2 (4%)			
Inflammation, Chronic Active	9 (18%)	36 (72%)	45 (90%)	48 (96%)
Thrombosis	4 (8%)	4 (8%)	11 (22%)	7 (14%)

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
Olfactory Epithelium, Metaplasia, Respiratory	3 (6%)	49 (98%)	49 (98%)	48 (96%)
Olfactory Epithelium, Metaplasia, Squamous			1 (2%)	5 (10%)
Respiratory Epithelium, Hyperplasia	5 (10%)	8 (16%)	22 (44%)	31 (62%)
Respiratory Epithelium, Metaplasia, Squamous			1 (2%)	3 (6%)
Turbinate, Atrophy		50 (100%)	50 (100%)	50 (100%)
Turbinate, Hyperostosis		49 (98%)	50 (100%)	50 (100%)
Pleura	(0)	(1)	(0)	(1)
Hyperplasia				1 (100%)
Infiltration Cellular, Mononuclear Cell				1 (100%)
Trachea	(50)	(49)	(49)	(48)

SPECIAL SENSES SYSTEM

Eye	(48)	(48)	(47)	(49)
Cataract	3 (6%)	1 (2%)	1 (2%)	1 (2%)
Degeneration		1 (2%)		1 (2%)
Cornea, Inflammation, Acute	1 (2%)	1 (2%)		
Cornea, Inflammation, Chronic Active	1 (2%)			1 (2%)
Retina, Atrophy	2 (4%)		1 (2%)	1 (2%)
Harderian Gland	(50)	(49)	(48)	(49)
Degeneration				1 (2%)
Hyperplasia		2 (4%)	1 (2%)	
Zymbal's Gland	(0)	(1)	(0)	(0)

URINARY SYSTEM

Kidney	(50)	(50)	(49)	(50)
Cyst		1 (2%)		
Hydronephrosis		1 (2%)		
Infarct			1 (2%)	2 (4%)
Inflammation, Suppurative		2 (4%)	1 (2%)	2 (4%)
Mineralization	1 (2%)			
Nephropathy	50 (100%)	47 (94%)	47 (96%)	47 (94%)
Thrombosis		1 (2%)		
Renal Tubule, Hyperplasia		1 (2%)	1 (2%)	1 (2%)

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FISCHER 344 RATS MALE	Control	25 ppm	50 ppm	100 ppm
Renal Tubule, Necrosis			2 (4%)	
Transitional Epithelium, Hyperplasia			1 (2%)	2 (4%)
Urinary Bladder	(49)	(50)	(49)	(50)
Inflammation, Acute				1 (2%)
Inflammation, Chronic Active			1 (2%)	
Transitional Epithelium, Hyperplasia			1 (2%)	2 (4%)

*** END OF MALE ***

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FISCHER 344 RATS FEMALE	Control	25 ppm	50 ppm	100 ppm
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	19	22	18	28
Natural Death	1	2	2	3
Survivors				
Natural Death			1	
Terminal Sacrifice	30	26	29	19
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(49)	(48)	(48)	(48)
Intestine Large, Colon	(50)	(49)	(48)	(50)
Cyst			1 (2%)	
Intestine Large, Rectum	(49)	(50)	(49)	(49)
Intestine Small, Duodenum	(50)	(50)	(49)	(50)
Intestine Small, Ileum	(50)	(48)	(49)	(49)
Intestine Small, Jejunum	(50)	(48)	(49)	(49)
Liver	(50)	(50)	(50)	(50)
Angiectasis	2 (4%)	4 (8%)	4 (8%)	5 (10%)
Basophilic Focus	46 (92%)	41 (82%)	32 (64%)	29 (58%)
Clear Cell Focus	15 (30%)	19 (38%)	22 (44%)	18 (36%)
Degeneration, Cystic		2 (4%)	4 (8%)	7 (14%)
Eosinophilic Focus	6 (12%)	11 (22%)	7 (14%)	16 (32%)
Fatty Change	1 (2%)			
Fatty Change, Focal	2 (4%)	1 (2%)	3 (6%)	
Fatty Change, Diffuse	19 (38%)	30 (60%)	26 (52%)	30 (60%)
Fibrosis, Focal		1 (2%)		
Hepatodiaphragmatic Nodule	3 (6%)	6 (12%)	4 (8%)	5 (10%)
Inflammation, Chronic	42 (84%)	48 (96%)	49 (98%)	48 (96%)
Mixed Cell Focus	4 (8%)	16 (32%)	12 (24%)	13 (26%)
Necrosis		3 (6%)	5 (10%)	11 (22%)
Bile Duct, Hyperplasia	7 (14%)		1 (2%)	6 (12%)

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FISCHER 344 RATS FEMALE	Control	25 ppm	50 ppm	100 ppm
Mesentery	(13)	(20)	(23)	(24)
Inflammation, Chronic Active		1 (5%)		
Fat, Hemorrhage			1 (4%)	
Fat, Necrosis	13 (100%)	19 (95%)	22 (96%)	23 (96%)
Oral Mucosa	(0)	(1)	(0)	(1)
Pharyngeal, Hyperplasia, Squamous				1 (100%)
Pancreas	(50)	(50)	(50)	(50)
Basophilic Focus	1 (2%)			
Inflammation, Granulomatous			1 (2%)	
Acinus, Atrophy	9 (18%)	13 (26%)	11 (22%)	11 (22%)
Acinus, Hyperplasia		1 (2%)	3 (6%)	3 (6%)
Salivary Glands	(50)	(50)	(50)	(50)
Atrophy				1 (2%)
Basophilic Focus			2 (4%)	1 (2%)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Hyperplasia, Squamous		1 (2%)	2 (4%)	2 (4%)
Necrosis		1 (2%)		
Ulcer	3 (6%)	1 (2%)	1 (2%)	3 (6%)
Stomach, Glandular	(50)	(50)	(50)	(50)
Mineralization		1 (2%)		
Necrosis	1 (2%)	4 (8%)	1 (2%)	6 (12%)
Tongue	(1)	(0)	(0)	(0)

CARDIOVASCULAR SYSTEM

Blood Vessel	(1)	(1)	(0)	(0)
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	33 (66%)	34 (68%)	32 (64%)	27 (54%)
Thrombosis		1 (2%)		1 (2%)
Pericardium, Fibrosis				1 (2%)

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Degeneration, Cystic				1 (2%)

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FISCHER 344 RATS FEMALE	Control	25 ppm	50 ppm	100 ppm
Hematopoietic Cell Proliferation		2 (4%)		
Hyperplasia	30 (60%)	28 (56%)	20 (40%)	25 (50%)
Hypertrophy	7 (14%)	3 (6%)	1 (2%)	4 (8%)
Metaplasia, Osseous				1 (2%)
Necrosis				1 (2%)
Vacuolization Cytoplasmic	1 (2%)			
Adrenal Medulla	(50)	(50)	(50)	(49)
Hyperplasia	7 (14%)	10 (20%)	9 (18%)	12 (24%)
Islets, Pancreatic	(50)	(50)	(50)	(50)
Hyperplasia		1 (2%)		
Parathyroid Gland	(49)	(46)	(45)	(47)
Angiectasis			1 (2%)	
Hyperplasia	1 (2%)			
Pituitary Gland	(50)	(49)	(49)	(49)
Pars Distalis, Angiectasis	4 (8%)	4 (8%)	4 (8%)	1 (2%)
Pars Distalis, Hyperplasia	12 (24%)	6 (12%)	12 (24%)	11 (22%)
Thyroid Gland	(50)	(50)	(48)	(50)
C-cell, Hyperplasia	35 (70%)	30 (60%)	32 (67%)	27 (54%)
Follicular Cell, Hyperplasia		1 (2%)		1 (2%)
GENERAL BODY SYSTEM				
Peritoneum	(0)	(1)	(1)	(1)
Inflammation, Acute		1 (100%)		
Mesothelium, Hyperplasia				1 (100%)
GENITAL SYSTEM				
Clitoral Gland	(47)	(48)	(45)	(48)
Hyperplasia		4 (8%)	1 (2%)	1 (2%)
Inflammation, Chronic Active		1 (2%)		
Ovary	(50)	(50)	(50)	(50)
Cyst			1 (2%)	1 (2%)
Bursa, Dilatation	5 (10%)	11 (22%)	17 (34%)	24 (48%)
Follicle, Cyst			1 (2%)	

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

Experiment Number: 20303 - 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)
 Vinylidene chloride
 CAS Number: 75-35-4

Date Report Requested: 12/12/2011
 Time Report Requested: 09:47:50
 First Dose M/F: 06/06/05 / 06/06/05
 Lab: BNW

FISCHER 344 RATS FEMALE	Control	25 ppm	50 ppm	100 ppm
Interstitial Cell, Hyperplasia	1 (2%)			
Periovarian Tissue, Cyst			1 (2%)	
Uterus	(50)	(50)	(50)	(50)
Inflammation, Chronic Active	1 (2%)			
Endometrium, Hyperplasia, Cystic	1 (2%)	1 (2%)	1 (2%)	1 (2%)
Vagina	(0)	(2)	(0)	(1)
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia, Reticulum Cell	1 (2%)			
Lymph Node	(2)	(2)	(4)	(9)
Deep Cervical, Hemorrhage			1 (25%)	
Deep Cervical, Hyperplasia, Lymphoid			1 (25%)	
Lymph Node, Bronchial	(4)	(7)	(4)	(10)
Congestion	1 (25%)			
Hyperplasia, Lymphoid		1 (14%)		1 (10%)
Infiltration Cellular, Histiocyte				1 (10%)
Lymph Node, Mandibular	(2)	(0)	(1)	(4)
Lymph Node, Mediastinal	(33)	(26)	(29)	(38)
Ectasia	1 (3%)			1 (3%)
Hemorrhage	1 (3%)		1 (3%)	
Hyperplasia, Lymphoid	1 (3%)	1 (4%)		
Hyperplasia, Plasma Cell		1 (4%)		
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Congestion	1 (2%)			
Hyperplasia, Lymphoid	1 (2%)	1 (2%)		1 (2%)
Inflammation, Granulomatous				1 (2%)
Spleen	(50)	(50)	(50)	(50)
Fibrosis	2 (4%)	1 (2%)	2 (4%)	4 (8%)
Hematopoietic Cell Proliferation			2 (4%)	1 (2%)
Hemorrhage		1 (2%)		
Hyperplasia, Lymphoid		1 (2%)		
Inflammation, Granulomatous		1 (2%)		
Inflammation, Acute		1 (2%)		

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FISCHER 344 RATS FEMALE	Control	25 ppm	50 ppm	100 ppm
Necrosis				3 (6%)
Thymus	(46)	(45)	(42)	(42)
INTEGUMENTARY SYSTEM				
Mammary Gland	(50)	(50)	(50)	(50)
Galactocele	1 (2%)	2 (4%)	2 (4%)	
Hyperplasia	1 (2%)	1 (2%)		
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	1 (2%)			
Hyperkeratosis			1 (2%)	
Inflammation, Chronic Active		1 (2%)	1 (2%)	1 (2%)
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Hyperostosis			1 (2%)	
Skeletal Muscle	(1)	(2)	(3)	(0)
Fibrosis			1 (33%)	
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Hydrocephalus		1 (2%)		
Necrosis				1 (2%)
RESPIRATORY SYSTEM				
Larynx	(50)	(50)	(50)	(50)
Inflammation, Chronic Active	2 (4%)	2 (4%)	1 (2%)	
Metaplasia, Squamous	1 (2%)	3 (6%)		
Lung	(50)	(50)	(50)	(50)
Hemorrhage			1 (2%)	

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FISCHER 344 RATS FEMALE	Control	25 ppm	50 ppm	100 ppm
Inflammation, Chronic Active	1 (2%)	1 (2%)	1 (2%)	
Thrombosis				1 (2%)
Alveolar Epithelium, Hyperplasia	12 (24%)	13 (26%)	13 (26%)	8 (16%)
Alveolar Epithelium, Metaplasia, Squamous	1 (2%)		2 (4%)	2 (4%)
Alveolus, Infiltration Cellular, Histiocyte			2 (4%)	1 (2%)
Bronchiole, Hyperplasia		2 (4%)	1 (2%)	1 (2%)
Nose	(50)	(50)	(50)	(50)
Foreign Body	2 (4%)	4 (8%)		5 (10%)
Inflammation, Acute	1 (2%)			
Inflammation, Chronic Active	7 (14%)	45 (90%)	46 (92%)	46 (92%)
Polyp, Inflammatory				3 (6%)
Thrombosis		3 (6%)	2 (4%)	7 (14%)
Olfactory Epithelium, Metaplasia, Respiratory	1 (2%)	50 (100%)	50 (100%)	50 (100%)
Olfactory Epithelium, Metaplasia, Squamous			1 (2%)	1 (2%)
Respiratory Epithelium, Hyperplasia	4 (8%)	12 (24%)	14 (28%)	27 (54%)
Respiratory Epithelium, Metaplasia, Squamous				3 (6%)
Turbinates, Atrophy		50 (100%)	50 (100%)	50 (100%)
Turbinates, Hyperostosis		50 (100%)	50 (100%)	50 (100%)
Pleura	(0)	(1)	(0)	(1)
Hyperplasia				1 (100%)
Infiltration Cellular, Mononuclear Cell				1 (100%)
Trachea	(50)	(50)	(50)	(50)

SPECIAL SENSES SYSTEM

Eye	(50)	(49)	(50)	(49)
Cataract	1 (2%)	1 (2%)	3 (6%)	1 (2%)
Degeneration	1 (2%)	3 (6%)	1 (2%)	
Cornea, Inflammation, Chronic Active	1 (2%)			
Retina, Atrophy	1 (2%)	4 (8%)	3 (6%)	2 (4%)
Harderian Gland	(50)	(50)	(50)	(50)
Hyperplasia	2 (4%)		1 (2%)	
Inflammation, Chronic	1 (2%)			
Lacrimal Gland	(0)	(0)	(1)	(1)
Cytoplasmic Alteration			1 (100%)	

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FISCHER 344 RATS FEMALE	Control	25 ppm	50 ppm	100 ppm
Degeneration Zymbal's Gland	(0)	(0)	(1)	1 (100%) (0)
URINARY SYSTEM				
Kidney	(50)	(50)	(50)	(50)
Fibrosis		1 (2%)		
Hydronephrosis	1 (2%)	1 (2%)		
Hyperplasia, Oncocytic	1 (2%)		1 (2%)	
Infarct	1 (2%)	1 (2%)		2 (4%)
Mineralization		1 (2%)		
Nephropathy	45 (90%)	40 (80%)	43 (86%)	42 (84%)
Papilla, Necrosis		1 (2%)		
Renal Tubule, Hyperplasia	1 (2%)	2 (4%)		2 (4%)
Renal Tubule, Necrosis			1 (2%)	
Urinary Bladder	(50)	(50)	(50)	(50)
Inflammation, Chronic Active	1 (2%)			

*** END OF REPORT ***

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