

**TDMS No.** 93025 - 07

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH  
AVERAGE SEVERITY GRADES[b]**

**Date Report Requested:** 11/17/2008

**Test Type:** CHRONIC

Tetralin

**Time Report Requested:** 08:56:08

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**CAS Number:** 119-64-2

**First Dose M/F:** 06/16/03 / 06/16/03

**Species/Strain:** RATS/F 344/N

**Lab:** BNW

F2\_R2

**C Number:** C93025  
**Lock Date:** 03/22/2006  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 2.1.0

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Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
<b>Disposition Summary</b>				
Animals Initially in Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	24	14	20	19
Natural Death	6	7	5	3
Survivors				
Natural Death		1		
Terminal Sacrifice	20	28	25	28
Animals Examined Microscopically	50	50	50	50
<b>ALIMENTARY SYSTEM</b>				
Intestine Small, Duodenum	(49)	(47)	(48)	(50)
Intestine Small, Ileum	(44)	(46)	(45)	(48)
Muscularis, Hyperplasia		1 [3.0]		
Liver	(50)	(50)	(50)	(50)
Angiectasis		1 [4.0]		1 [4.0]
Basophilic Focus	2 [1.0]		5 [1.0]	
Basophilic Focus, Multiple	4 [1.0]	1 [2.0]	1 [1.0]	3 [2.0]
Clear Cell Focus	5 [1.2]	3 [3.3]	3 [1.5]	6 [2.2]
Clear Cell Focus, Multiple	7 [1.6]	11 [1.5]	8 [1.8]	7 [2.3]
Degeneration, Cystic	1 [1.0]	2 [2.0]	1 [1.0]	2 [1.5]
Hematopoietic Cell Proliferation			1 [3.0]	
Hemorrhage				1 [1.0]
Hepatodiaphragmatic Nodule	4 [4.0]	4 [4.0]	4 [4.0]	4 [4.0]
Infarct		1 [4.0]		
Mixed Cell Focus				1 [1.0]
Necrosis	3 [3.3]	3 [3.7]	1 [4.0]	
Vacuolization Cytoplasmic	4 [2.8]	5 [1.4]	4 [1.5]	8 [1.8]
Bile Duct, Hyperplasia	15 [1.6]	3 [1.3]	4 [1.0]	9 [1.2]
Centrilobular, Degeneration				2 [3.0]
Hepatocyte, Regeneration	2 [4.0]			
Periportal, Inflammation, Chronic	3 [1.3]	3 [1.3]	2 [2.5]	5 [1.8]
Serosa, Fibrosis			1 [4.0]	
Mesentery	(15)	(13)	(12)	(11)
Hemorrhage	1 [2.0]			1 [2.0]
Necrosis	12 [2.1]	13 [2.5]	12 [2.0]	11 [2.4]

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

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Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
Fat, Hemorrhage	2 [2.0]			1 [1.0]
Oral Mucosa	(1)	(0)	(3)	(0)
Hyperplasia, Squamous	1 [4.0]			
Pharyngeal, Fibrosis			1 [4.0]	
Pharyngeal, Hyperplasia, Squamous			2 [3.0]	
Pancreas	(50)	(50)	(50)	(50)
Cyst	1 [1.0]	1 [4.0]		
Inflammation, Chronic			1 [3.0]	
Acinus, Atrophy	9 [2.4]	5 [2.6]	3 [2.0]	5 [2.6]
Artery, Inflammation				1 [4.0]
Stomach, Forestomach	(50)	(50)	(50)	(50)
Diverticulum		1		
Erosion		1 [4.0]		
Hyperplasia, Squamous	2 [3.5]		1 [3.0]	
Inflammation, Suppurative	2 [3.5]	1 [4.0]	1 [2.0]	
Ulcer	5 [3.8]	1 [4.0]	3 [3.3]	2 [4.0]
Stomach, Glandular	(50)	(50)	(50)	(50)
Erosion		2 [3.0]		1 [1.0]
Ulcer	1 [4.0]			1 [3.0]
Tongue	(1)	(3)	(3)	(1)
Epithelium, Hyperplasia	1 [2.0]	2 [2.0]	3 [3.0]	1 [3.0]
Tooth	(3)	(2)	(1)	(0)
Inflammation, Suppurative		2 [3.5]	1 [4.0]	
Malformation	2 [3.5]			
Epithelium Alveolus, Hyperplasia	1 [4.0]			
Peridontal Tissue, Inflammation	1 [2.0]			
<b>CARDIOVASCULAR SYSTEM</b>				
Blood Vessel	(0)	(0)	(0)	(1)
Inflammation, Chronic Active				1 [4.0]
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	35 [1.4]	35 [1.3]	38 [1.4]	32 [1.4]
Atrium, Thrombosis	1 [4.0]	2 [4.0]	1 [4.0]	3 [4.0]
Ventricle, Inflammation, Suppurative		1 [4.0]		
<b>ENDOCRINE SYSTEM</b>				
Adrenal Cortex	(50)	(50)	(49)	(50)

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

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Route: RESPIRATORY EXPOSURE WHOLE BODY

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Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
Atrophy			1 [4.0]	
Hemorrhage	1 [2.0]			
Hyperplasia	13 [1.7]	17 [2.5]	18 [2.1]	14 [1.9]
Vacuolization Cytoplasmic	17 [1.4]	11 [1.5]	19 [1.2]	15 [1.5]
Adrenal Medulla	(50)	(50)	(49)	(50)
Hyperplasia	16 [1.9]	15 [2.7]	15 [2.2]	13 [2.1]
Infiltration Cellular, Lymphocyte			1 [3.0]	
Islets, Pancreatic	(50)	(50)	(50)	(50)
Hyperplasia		2 [4.0]	1 [4.0]	
Pituitary Gland	(50)	(49)	(49)	(49)
Cyst	2 [4.0]	3 [4.0]		
Hemorrhage		2 [4.0]	4 [3.8]	4 [2.8]
Hyperplasia	7 [3.1]	8 [3.3]	4 [3.0]	6 [2.7]
Pars Intermedia, Cyst				1 [3.0]
Thyroid Gland	(50)	(50)	(50)	(50)
C-cell, Hyperplasia	23 [1.7]	17 [1.9]	16 [1.2]	10 [1.9]
Follicle, Cyst	1 [2.0]			
Follicular Cell, Hyperplasia		1 [4.0]	1 [1.0]	1 [1.0]
<b>GENERAL BODY SYSTEM</b>				
Peritoneum	(0)	(2)	(0)	(3)
<b>GENITAL SYSTEM</b>				
Epididymis	(50)	(50)	(50)	(50)
Necrosis, Fatty				1 [2.0]
Preputial Gland	(50)	(50)	(50)	(49)
Cyst	1 [2.0]	1 [3.0]	3 [3.7]	
Hyperplasia	2 [3.0]	2 [3.0]	3 [4.0]	3 [3.3]
Inflammation, Suppurative	1 [2.0]			1 [3.0]
Prostate	(50)	(50)	(50)	(50)
Hyperplasia	2 [1.0]	1 [1.0]	5 [1.4]	5 [1.2]
Inflammation, Suppurative	40 [1.4]	36 [1.6]	38 [1.7]	34 [1.5]
Inflammation, Chronic				1 [3.0]
Seminal Vesicle	(50)	(50)	(50)	(50)
Dilatation			1 [3.0]	
Inflammation, Suppurative			1 [1.0]	
Inflammation, Chronic				1 [2.0]

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Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
Testes	(50)	(50)	(50)	(50)
Mineralization		2 [2.5]		1 [3.0]
Artery, Inflammation, Chronic Active	1 [2.0]	1 [1.0]	6 [2.0]	2 [2.5]
Germinal Epithelium, Atrophy	32 [2.2]	42 [2.4]	34 [2.4]	45 [2.3]
Interstitial Cell, Hyperplasia	4 [2.5]	4 [2.8]	4 [2.0]	3 [2.0]
<b>HEMATOPOIETIC SYSTEM</b>				
Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia, Reticulum Cell	2 [3.0]		1 [4.0]	
Lymph Node	(8)	(2)	(7)	(1)
Deep Cervical, Ectasia			1 [3.0]	
Pancreatic, Ectasia			1 [4.0]	
Pancreatic, Hyperplasia, Lymphoid				1 [2.0]
Pancreatic, Pigmentation, Hemosiderin		1 [3.0]		
Lymph Node, Bronchial	(7)	(5)	(4)	(4)
Angiectasis	1 [3.0]		2 [3.5]	
Ectasia	1 [4.0]	1 [4.0]		
Hemorrhage		1 [2.0]		1 [1.0]
Hyperplasia, Lymphoid				1 [4.0]
Infiltration Cellular, Histiocyte				1 [3.0]
Inflammation, Chronic	1 [4.0]			
Inflammation, Chronic Active	1 [3.0]			
Pigmentation, Hemosiderin		1 [2.0]		
Lymph Node, Mandibular	(0)	(1)	(3)	(0)
Inflammation, Chronic Active			1 [3.0]	
Lymph Node, Mediastinal	(33)	(36)	(36)	(31)
Angiectasis		1 [4.0]		
Ectasia	1 [4.0]		1 [2.0]	1 [3.0]
Hemorrhage	1 [2.0]	1 [4.0]		2 [2.5]
Hyperplasia, Lymphoid		1 [4.0]	1 [3.0]	1 [4.0]
Inflammation, Suppurative			1 [2.0]	
Inflammation, Chronic	1 [4.0]			
Inflammation, Chronic Active	1 [3.0]			
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Ectasia	1 [2.0]			
Fibrosis			1 [2.0]	
Necrosis		1 [4.0]		
Spleen	(50)	(50)	(50)	(50)

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Lab: BNW

FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
Accessory Spleen	2 [2.0]	1 [2.0]		
Fibrosis		3 [2.7]		
Hematopoietic Cell Proliferation	1 [4.0]	1 [4.0]	4 [3.5]	1 [3.0]
Hemorrhage	2 [4.0]	2 [3.0]		1 [4.0]
Hyperplasia, Lymphoid	1 [4.0]		1 [3.0]	
Necrosis	2 [4.0]	2 [4.0]	1 [4.0]	
Pigmentation, Hemosiderin		1 [4.0]		
Thymus	(47)	(43)	(44)	(43)
Ectopic Thyroid				1 [2.0]
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(50)	(50)	(50)	(50)
Galactocele	2 [4.0]	3 [3.0]	2 [2.5]	2 [1.0]
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	4 [4.0]	3 [4.0]		3 [4.0]
Hyperkeratosis		1 [3.0]	2 [4.0]	
Hyperplasia, Squamous			2 [4.0]	
Inflammation, Chronic	1 [3.0]	1 [2.0]		
Ulcer	5 [3.8]	1 [4.0]		
Subcutaneous Tissue, Fibrosis		1 [2.0]		
Subcutaneous Tissue, Hemorrhage			1 [4.0]	
Subcutaneous Tissue, Metaplasia, Osseous		1 [3.0]		
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)
<b>NERVOUS SYSTEM</b>				
Brain	(50)	(50)	(50)	(50)
Compression	13 [2.8]	13 [2.7]	17 [2.8]	4 [2.3]
Hemorrhage	6 [2.5]	5 [3.0]	4 [2.3]	2 [3.0]
Cerebrum, Mineralization	1 [1.0]			
<b>RESPIRATORY SYSTEM</b>				

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Lab: BNW

FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
Larynx	(50)	(50)	(50)	(50)
Foreign Body	6 [4.0]	2 [4.0]	4 [4.0]	3 [4.0]
Inflammation, Suppurative	5 [1.2]	2 [1.5]	7 [1.0]	7 [1.1]
Inflammation, Chronic	1 [1.0]			
Epiglottis, Metaplasia, Squamous Respiratory Epithelium, Hyperplasia	1 [1.0]			1 [1.0]
Respiratory Epithelium, Metaplasia, Squamous		1 [1.0]		
Lung	(50)	(50)	(50)	(50)
Congestion	1 [3.0]		1 [2.0]	
Hemorrhage	5 [1.4]	3 [2.3]	5 [1.2]	3 [1.7]
Inflammation, Suppurative			2 [1.0]	
Inflammation, Chronic	8 [1.6]	10 [1.5]	7 [1.6]	9 [1.7]
Alveolar Epithelium, Hyperplasia	12 [2.0]	7 [1.9]	11 [3.0]	15 [2.7]
Alveolar Epithelium, Metaplasia, Squamous	1 [4.0]		1 [4.0]	1 [2.0]
Alveolar Epithelium, Metaplasia, Mucous	1 [3.0]		2 [2.5]	2 [3.0]
Alveolus, Emphysema				1 [2.0]
Alveolus, Foreign Body				2 [1.0]
Alveolus, Infiltration Cellular, Histiocyte	13 [1.5]	16 [1.5]	14 [1.3]	15 [1.3]
Alveolus, Proteinosis	3 [2.0]	1 [1.0]	3 [2.0]	4 [3.3]
Artery, Mineralization			1 [2.0]	1 [2.0]
Bronchiole, Hyperplasia		1 [1.0]		1 [1.0]
Bronchiole, Inflammation, Suppurative				1 [3.0]
Bronchiole, Glands, Degeneration, Muroid	5 [1.2]		1 [3.0]	4 [1.5]
Bronchiole, Goblet Cell, Hyperplasia	1 [3.0]			
Interstitialium, Fibrosis	1 [1.0]	1 [2.0]	1 [1.0]	
Mediastinum, Fibrosis			2 [2.5]	
Mediastinum, Hyperplasia, Lymphoid, Focal			1 [2.0]	
Nose	(50)	(50)	(49)	(50)
Foreign Body	11 [2.6]	5 [3.0]	5 [3.0]	3 [3.0]
Inflammation, Suppurative	6 [1.3]	6 [1.3]	5 [1.8]	4 [1.8]
Inflammation, Chronic	1 [1.0]			
Inflammation, Chronic Active	1 [1.0]			
Glands, Dilatation		3 [1.3]	3 [1.3]	16 [1.8]
Goblet Cell, Hyperplasia		1 [2.0]		
Nasolacrimal Duct, Inflammation, Suppurative	1 [1.0]	3 [1.3]		

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Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
Olfactory Epithelium, Atrophy				1 [3.0]
Olfactory Epithelium, Degeneration	1 [1.0]	40 [1.9]	43 [1.6]	42 [2.0]
Olfactory Epithelium, Degeneration, Hyaline	1 [2.0]			
Olfactory Epithelium, Hyperplasia, Basal Cell		38 [1.8]	48 [1.9]	48 [2.0]
Olfactory Epithelium, Inflammation, Suppurative		12 [1.1]	8 [1.4]	10 [1.9]
Olfactory Epithelium, Metaplasia		17 [1.6]	31 [1.6]	37 [1.8]
Olfactory Epithelium, Mineralization		5 [1.2]	12 [1.5]	17 [1.3]
Respiratory Epithelium, Degeneration, Hyaline	1 [1.0]			
Respiratory Epithelium, Hyperplasia	1 [2.0]	2 [2.5]	3 [2.7]	3 [1.3]
Respiratory Epithelium, Inflammation, Chronic	4 [1.0]	4 [1.3]	18 [1.2]	16 [1.1]
Respiratory Epithelium, Metaplasia, Squamous		1 [1.0]		
Pleura	(2)	(1)	(3)	(10)
Fibrosis	2 [1.5]		1 [1.0]	2 [1.0]
Inflammation, Chronic				1 [2.0]
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(50)	(49)	(48)	(50)
Atrophy	1 [4.0]			
Inflammation, Chronic	1 [3.0]			
Anterior Chamber, Edema			1 [4.0]	
Anterior Chamber, Inflammation, Suppurative	1 [1.0]			
Cornea, Degeneration		1 [1.0]		
Cornea, Inflammation, Suppurative		1 [1.0]		1 [1.0]
Cornea, Mineralization	1 [1.0]	1 [1.0]		1 [1.0]
Lens, Cataract	9 [2.6]	10 [2.4]	10 [2.4]	10 [1.5]
Retina, Atrophy	2 [4.0]	3 [3.3]	5 [2.4]	4 [3.3]
Sclera, Metaplasia, Osseous	4 [2.3]	11 [1.5]	3 [2.3]	7 [2.1]
Harderian Gland	(50)	(50)	(50)	(50)
Infiltration Cellular, Lymphocyte			1 [2.0]	
Inflammation, Chronic		1 [1.0]	2 [1.5]	3 [2.0]
Zymbal's Gland	(0)	(0)	(1)	(1)

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FISCHER 344 RATS MALE	CONTROL	30 PPM	60 PPM	120 PPM
<b>URINARY SYSTEM</b>				
Kidney	(50)	(50)	(50)	(50)
Infiltration Cellular, Lymphocyte Inflammation, Suppurative		1 [3.0]	1 [3.0]	
Nephropathy, Chronic	48 [2.6]	50 [3.0]	48 [3.0]	50 [3.4]
Artery, Necrosis		1 [3.0]	1 [3.0]	
Cortex, Renal Tubule, Accumulation, Hyaline Droplet	1 [4.0]	2 [4.0]	1 [3.0]	
Cortex, Renal Tubule, Dilatation				1 [1.0]
Cortex, Renal Tubule, Hyperplasia	1 [2.0]	2 [3.0]		3 [3.7]
Cortex, Renal Tubule, Hyperplasia, Oncocytic		1 [4.0]		
Cortex, Renal Tubule, Pigmentation	1 [4.0]			
Medulla, Casts			1 [4.0]	
Papilla, Mineralization	13 [1.2]	11 [1.0]	10 [1.0]	18 [1.2]
Pelvis, Transitional Epithelium, Dilatation				1 [1.0]
Pelvis, Transitional Epithelium, Hyperplasia	1 [1.0]	1 [2.0]		7 [1.7]
Urinary Bladder	(50)	(50)	(50)	(50)
Calculus Micro Observation Only	1		1	
Inflammation, Chronic	1 [2.0]			1 [2.0]
Transitional Epithelium, Hyperplasia			2 [2.0]	1 [2.0]

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

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FISCHER 344 RATS FEMALE	CONTROL	30 PPM	60 PPM	120 PPM
<b>Disposition Summary</b>				
Animals Initially in Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	16	11	15	11
Natural Death	3	3	4	1
Survivors				
Terminal Sacrifice	31	36	31	38
Animals Examined Microscopically	50	50	50	50
<b>ALIMENTARY SYSTEM</b>				
Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(49)	(50)	(48)	(49)
Intestine Large, Colon	(50)	(50)	(50)	(49)
Inflammation, Suppurative				1 [4.0]
Ulcer				1 [4.0]
Intestine Large, Rectum	(50)	(50)	(50)	(49)
Intestine Small, Ileum	(49)	(50)	(48)	(49)
Inflammation, Chronic			1 [3.0]	
Liver	(50)	(50)	(50)	(50)
Angiectasis	1 [3.0]	4 [3.0]	1 [1.0]	4 [1.8]
Basophilic Focus	7 [1.4]	7 [2.0]	7 [1.9]	2 [2.0]
Basophilic Focus, Multiple	18 [1.4]	13 [1.0]	16 [1.3]	20 [1.1]
Clear Cell Focus	6 [1.7]	6 [2.2]	7 [1.9]	9 [1.9]
Clear Cell Focus, Multiple	9 [1.6]	2 [1.5]	5 [1.5]	10 [1.4]
Degeneration, Cystic			1 [1.0]	
Hematopoietic Cell Proliferation			2 [3.0]	
Hepatodiaphragmatic Nodule	5 [4.0]	6 [4.0]	9 [4.0]	6 [4.0]
Mixed Cell Focus				1 [2.0]
Mixed Cell Focus, Multiple		1 [1.0]		
Necrosis	2 [3.0]		2 [3.0]	
Vacuolization Cytoplasmic	6 [2.0]	2 [3.0]	2 [2.5]	3 [2.3]
Bile Duct, Hyperplasia	2 [2.0]			1 [1.0]
Periportal, Inflammation, Chronic		2 [2.0]	3 [1.3]	3 [1.3]
Serosa, Fibrosis			1 [1.0]	
Mesentery	(10)	(18)	(18)	(14)
Necrosis	10 [2.1]	18 [2.8]	18 [2.4]	14 [2.6]

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b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

Test Type: CHRONIC

Tetralin

Time Report Requested: 08:56:08

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 119-64-2

First Dose M/F: 06/16/03 / 06/16/03

Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	30 PPM	60 PPM	120 PPM
Fat, Hemorrhage				1 [2.0]
Oral Mucosa	(1)	(0)	(1)	(1)
Pharyngeal, Hyperplasia, Squamous	1 [4.0]		1 [4.0]	1 [4.0]
Pancreas	(50)	(50)	(50)	(50)
Cyst		1 [3.0]		
Inflammation, Chronic		1 [2.0]		
Acinus, Atrophy	2 [2.0]	1 [2.0]		
Salivary Glands	(50)	(50)	(50)	(50)
Inflammation, Chronic				1 [2.0]
Stomach, Forestomach	(50)	(50)	(50)	(50)
Hyperplasia, Squamous	1 [2.0]		1 [4.0]	
Inflammation, Suppurative	2 [2.0]		1 [4.0]	
Ulcer				1 [4.0]
Stomach, Glandular	(50)	(50)	(50)	(50)
Ulcer	1 [3.0]			
Epithelium, Hyperplasia		1 [4.0]		
Tongue	(1)	(1)	(0)	(3)
Epithelium, Hyperplasia		1 [3.0]		3 [4.0]
<b>CARDIOVASCULAR SYSTEM</b>				
Blood Vessel	(0)	(0)	(0)	(1)
Media, Inflammation, Chronic				1 [3.0]
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	22 [1.3]	24 [1.2]	32 [1.2]	34 [1.2]
Atrium, Thrombosis	1 [3.0]			
Pericardium, Fibrosis	1 [3.0]			
Pericardium, Infiltration Cellular, Mixed	1 [2.0]			
Cell				
Ventricle, Thrombosis		1 [4.0]		
<b>ENDOCRINE SYSTEM</b>				
Adrenal Cortex	(50)	(50)	(50)	(50)
Hematopoietic Cell Proliferation			2 [2.5]	
Hemorrhage	3 [2.0]	1 [3.0]	1 [2.0]	
Hyperplasia	14 [3.2]	17 [2.4]	14 [2.4]	18 [2.5]
Metaplasia, Osseous			1 [2.0]	
Necrosis		1 [4.0]	1 [2.0]	

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Tetralin

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Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 119-64-2

First Dose M/F: 06/16/03 / 06/16/03

Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	30 PPM	60 PPM	120 PPM
Vacuolization Cytoplasmic Capsule, Hyperplasia	4 [1.8]	7 [1.9]	8 [1.8]	4 [2.3]
Adrenal Medulla	(50)	(50)	(50)	1 [1.0]
Hyperplasia	1 [1.0]	2 [1.0]	3 [2.3]	(50)
Islets, Pancreatic	(50)	(50)	(50)	(50)
Hyperplasia	1 [3.0]	(49)	(48)	(47)
Parathyroid Gland	(49)	(50)	(48)	(47)
Hyperplasia	1 [3.0]	(50)	1 [2.0]	1 [3.0]
Pituitary Gland	(49)	(50)	(50)	(50)
Cyst	3 [3.0]	2 [4.0]	4 [3.8]	4 [4.0]
Hyperplasia	5 [3.0]	11 [2.8]	10 [2.9]	5 [3.0]
Thyroid Gland	(50)	(50)	(50)	(49)
C-cell, Hyperplasia	27 [1.4]	23 [1.4]	17 [1.2]	19 [1.7]
Follicle, Cyst				1 [3.0]
Follicular Cell, Hyperplasia	1 [2.0]		1 [3.0]	

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Clitoral Gland	(50)	(50)	(50)	(50)
Cyst	2 [3.0]			3 [3.0]
Hyperplasia	4 [3.3]	4 [2.8]	4 [2.3]	2 [3.5]
Inflammation, Suppurative				1 [2.0]
Inflammation, Chronic			1 [1.0]	
Ovary	(50)	(50)	(50)	(50)
Cyst	6 [3.7]	4 [4.0]	7 [3.6]	9 [3.3]
Hyperplasia, Adenomatous				1 [3.0]
Oviduct	(0)	(1)	(0)	(0)
Cyst		1 [2.0]		
Inflammation, Suppurative		1 [1.0]		
Uterus	(50)	(50)	(50)	(50)
Decidual Reaction	1 [4.0]	1 [4.0]		
Hemorrhage	1 [4.0]	1 [4.0]	2 [4.0]	3 [4.0]
Hydrometra		1 [2.0]		
Necrosis		3 [4.0]		2 [4.0]
Thrombosis			1 [4.0]	

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Test Type: CHRONIC

Tetralin

Time Report Requested: 08:56:08

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 119-64-2

First Dose M/F: 06/16/03 / 06/16/03

Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	30 PPM	60 PPM	120 PPM
Cervix, Myometrium, Hypertrophy		1 [4.0]		
Endometrium, Hyperplasia	2 [1.0]	5 [1.2]	7 [1.4]	11 [2.3]
Endometrium, Inflammation, Suppurative			3 [1.7]	
<b>HEMATOPOIETIC SYSTEM</b>				
Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia			1 [3.0]	1 [4.0]
Hyperplasia, Reticulum Cell		2 [3.0]	3 [3.7]	
Erythroid Cell, Hyperplasia			1 [4.0]	
Lymph Node	(4)	(3)	(3)	(3)
Pancreatic, Ectasia			1 [2.0]	
Pancreatic, Erythrophagocytosis		1 [4.0]		
Pancreatic, Hemorrhage		1 [3.0]		1 [2.0]
Pancreatic, Infiltration Cellular, Histiocyte	1 [4.0]	1 [4.0]		
Pancreatic, Inflammation, Chronic				1 [2.0]
Pancreatic, Pigmentation		1 [3.0]	1 [2.0]	1 [3.0]
Lymph Node, Bronchial	(3)	(5)	(3)	(2)
Ectasia			1 [3.0]	
Hyperplasia, Lymphoid		1 [4.0]		
Infiltration Cellular, Histiocyte		2 [4.0]		
Pigmentation		1 [4.0]		
Lymph Node, Mediastinal	(33)	(36)	(40)	(34)
Angiectasis	1 [4.0]		1 [3.0]	
Ectasia				1 [4.0]
Hyperplasia, Lymphoid	2 [3.0]			
Inflammation, Chronic	1 [3.0]			
Pigmentation	2 [3.0]		1 [2.0]	
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Ectasia				1 [4.0]
Pigmentation				1 [2.0]
Spleen	(50)	(50)	(50)	(50)
Fibrosis	1 [2.0]	1 [4.0]		
Hematopoietic Cell Proliferation	2 [3.5]	4 [3.5]	5 [3.6]	1 [4.0]
Hemorrhage		1 [4.0]		
Necrosis	2 [4.0]			
Thymus	(44)	(45)	(48)	(46)
Cyst		1 [3.0]		
Ectopic Parathyroid Gland				1 [1.0]

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Test Type: CHRONIC

Tetralin

Time Report Requested: 08:56:08

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 119-64-2

First Dose M/F: 06/16/03 / 06/16/03

Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	30 PPM	60 PPM	120 PPM
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(50)	(50)	(50)	(50)
Galactocele	1 [1.0]	2 [1.0]	4 [2.5]	2 [4.0]
Hyperplasia				1 [1.0]
Epithelium, Hyperplasia		1 [1.0]	1 [1.0]	
Skin	(50)	(50)	(50)	(50)
Hyperkeratosis				1 [2.0]
Hyperplasia, Squamous				1 [2.0]
Inflammation, Chronic			1 [3.0]	1 [1.0]
Ulcer	1 [3.0]	1 [4.0]	1 [4.0]	3 [3.0]
Subcutaneous Tissue, Hemorrhage		1 [3.0]		
Subcutaneous Tissue, Inflammation, Chronic	1 [2.0]			
Subcutaneous Tissue, Ulcer			1 [4.0]	
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)
Skeletal Muscle	(1)	(1)	(0)	(0)
<b>NERVOUS SYSTEM</b>				
Brain	(50)	(50)	(50)	(50)
Compression	11 [3.1]	6 [3.5]	13 [3.2]	12 [3.1]
Hemorrhage	2 [1.5]	3 [3.7]	4 [2.5]	5 [3.0]
Hydrocephalus				1 [3.0]
Necrosis				1 [4.0]
Thrombosis	1 [4.0]			
Choroid Plexus, Hyperplasia				1 [2.0]
Medulla, Gliosis			1 [3.0]	
Spinal Cord	(0)	(1)	(0)	(0)
<b>RESPIRATORY SYSTEM</b>				
Larynx	(50)	(50)	(50)	(50)
Foreign Body	3 [4.0]	4 [4.0]	4 [3.5]	3 [4.0]

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Test Type: CHRONIC

Tetralin

Time Report Requested: 08:56:08

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 119-64-2

First Dose M/F: 06/16/03 / 06/16/03

Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	30 PPM	60 PPM	120 PPM
Inflammation, Suppurative	6 [1.2]	2 [1.0]	6 [1.0]	9 [1.1]
Inflammation, Chronic		1 [1.0]	1 [1.0]	1 [1.0]
Epiglottis, Metaplasia, Squamous				1 [1.0]
Respiratory Epithelium, Hyperplasia	3 [1.3]	1 [1.0]		1 [1.0]
Lung	(50)	(50)	(50)	(50)
Hemorrhage	2 [3.0]	1 [4.0]		
Inflammation, Suppurative		1 [3.0]		
Inflammation, Chronic	12 [1.6]	16 [1.4]	14 [1.9]	21 [1.4]
Alveolar Epithelium, Hyperplasia	6 [1.8]	5 [3.0]	4 [2.0]	3 [1.0]
Alveolar Epithelium, Metaplasia, Squamous	1 [3.0]			
Alveolus, Infiltration Cellular, Histiocyte	21 [1.5]	30 [1.3]	24 [1.3]	34 [1.2]
Alveolus, Pigmentation	1 [4.0]			
Alveolus, Proteinosis		5 [1.4]	3 [1.0]	2 [1.0]
Bronchiole, Hyperplasia	1 [1.0]	3 [1.0]	2 [1.0]	3 [1.3]
Bronchiole, Glands, Degeneration, Muroid	2 [1.0]	2 [1.0]	2 [1.5]	
Interstitialium, Fibrosis				1 [1.0]
Mediastinum, Infiltration Cellular, Histiocyte		1 [4.0]		
Nose	(50)	(50)	(50)	(50)
Foreign Body	1 [3.0]	1 [3.0]	2 [3.0]	5 [3.0]
Inflammation, Suppurative	7 [1.3]	1 [2.0]	4 [1.3]	4 [1.8]
Glands, Dilatation		6 [1.0]	10 [1.5]	16 [1.8]
Nasolacrimal Duct, Inflammation, Suppurative	3 [2.7]	2 [1.0]	1 [2.0]	1 [3.0]
Olfactory Epithelium, Degeneration		47 [1.6]	50 [1.6]	46 [1.5]
Olfactory Epithelium, Degeneration, Hyaline	3 [1.0]			
Olfactory Epithelium, Hyperplasia, Basal Cell		48 [1.6]	50 [1.7]	49 [1.6]
Olfactory Epithelium, Inflammation, Suppurative		16 [1.2]	15 [1.1]	19 [1.3]
Olfactory Epithelium, Metaplasia		41 [1.2]	43 [1.2]	49 [1.6]
Olfactory Epithelium, Mineralization		2 [1.0]	8 [1.1]	13 [1.1]
Respiratory Epithelium, Degeneration, Hyaline	1 [1.0]			
Respiratory Epithelium, Hyperplasia	7 [1.6]	1 [2.0]	2 [2.0]	5 [2.2]
Respiratory Epithelium, Inflammation, Chronic	1 [2.0]	7 [1.0]	11 [1.2]	12 [1.2]

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Test Type: CHRONIC

Tetralin

Time Report Requested: 08:56:08

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 119-64-2

First Dose M/F: 06/16/03 / 06/16/03

Species/Strain: RATS/F 344/N

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	30 PPM	60 PPM	120 PPM
Pleura	(9)	(16)	(15)	(17)
Fibrosis			2 [2.0]	
Infiltration Cellular, Histiocyte	1 [4.0]			
Mesothelium, Hyperplasia			1 [2.0]	
Trachea	(50)	(50)	(50)	(50)
Inflammation, Chronic			1 [1.0]	
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(49)	(50)	(49)	(50)
Cornea, Inflammation	1 [2.0]			
Cornea, Inflammation, Suppurative		1 [1.0]		
Cornea, Mineralization				1 [2.0]
Lens, Cataract	2 [3.0]	6 [2.7]	7 [2.6]	11 [1.9]
Retina, Atrophy	4 [2.0]	7 [2.6]	7 [2.6]	7 [2.1]
Sclera, Metaplasia, Osseous		1 [2.0]	1 [2.0]	
Harderian Gland	(50)	(50)	(50)	(50)
Inflammation, Chronic	2 [1.0]	1 [1.0]	2 [1.0]	
Zymbal's Gland	(1)	(0)	(0)	(0)
<b>URINARY SYSTEM</b>				
Kidney	(50)	(50)	(50)	(50)
Nephropathy, Chronic	40 [1.6]	41 [1.7]	44 [1.8]	49 [1.9]
Cortex, Infarct, Multiple	1 [3.0]			
Cortex, Renal Tubule, Accumulation, Hyaline Droplet	1 [3.0]		2 [3.5]	
Papilla, Mineralization	28 [1.1]	16 [1.1]	23 [1.0]	20 [1.1]
Pelvis, Inflammation, Suppurative				1 [1.0]
Pelvis, Inflammation, Chronic			1 [2.0]	
Pelvis, Mineralization	1 [1.0]			
Pelvis, Transitional Epithelium, Hyperplasia		4 [1.8]	1 [2.0]	2 [1.5]
Pelvis, Transitional Epithelium, Mineralization	2 [2.0]	1 [1.0]	2 [1.0]	2 [1.0]
Renal Tubule, Dilatation		1 [4.0]		
Urinary Bladder	(50)	(50)	(50)	(50)
Transitional Epithelium, Hyperplasia		2 [2.5]		1 [3.0]

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TDMS No. 93025 - 07

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH  
AVERAGE SEVERITY GRADES[b]**

Date Report Requested: 11/17/2008

Test Type: CHRONIC

Tetralin

Time Report Requested: 08:56:08

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 119-64-2

First Dose M/F: 06/16/03 / 06/16/03

Species/Strain: RATS/F 344/N

Lab: BNW

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FISCHER 344 RATS FEMALE

CONTROL

30 PPM

60 PPM

120 PPM

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