

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Revised F1

Date Report Reqsted: 02/02/2006

Time Report Reqsted: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

C Number: C88006B

Lock Date: 03/26/2004

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

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	DAY ON TEST	7	7	6	7	7	6	7	7	6	7	7	7	7	7	6	6	7	7	7	7	5	7	7	6	7
		2	2	8	3	2	2	1	2	0	0	2	3	2	2	6	4	3	2	0	3	8	2	2	1	3
		9	9	8	0	9	4	8	9	3	2	9	0	9	9	0	2	0	9	2	0	7	9	9	8	0
FISCHER 344 RATS MALE CONTROL	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5

males
(cont...)

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Basophilic Focus																									
Clear Cell Focus										X	X												X		
Clear Cell Focus, Multiple					X																				
Degeneration, Cystic																									
Necrosis																									
Vacuolization Cytoplasmic																									
Bile Duct, Hyperplasia	1		2	2	2		2	1	1	2	2		2	1		3					2			2	
Mesentery		+	+			+			+										+	+					+
Necrosis		3	3			4			3										3	3					1

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

		7 2 9	7 2 9	6 8 8	7 3 0	7 2 9	6 2 4	7 1 8	7 2 9	6 0 3	7 0 2	7 2 9	7 3 0	7 2 9	6 6 0	6 4 2	7 3 0	7 2 9	7 0 2	7 3 0	5 8 7	7 2 9	7 2 9	6 1 8	7 3 0	
DAY ON TEST																										
FISCHER 344 RATS MALE CONTROL	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
		males (cont...)																								
Adrenal Cortex		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Atrophy																										
Hyperplasia		2	4				2	2		3		1			3		3	2		2					3	
Hypertrophy							2																			
Mineralization																										
Vacuolization Cytoplasmic			4	1	2																		1	3		
Adrenal Medulla		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Atrophy																										
Hyperplasia					4			4		4				1	3	2			4			3		4		
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Hyperplasia									3																	
Parathyroid Gland		+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	
Hyperplasia																										
Pituitary Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Hyperplasia					2								3			4										
Thyroid Gland		+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	
C-cell, Hyperplasia		1							1															2	4	

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
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Page 4

FISCHER 344 RATS MALE CONTROL	DAY ON TEST	7 2 9	7 2 9	6 8 8	7 3 0	7 2 9	6 2 4	7 1 8	7 2 9	6 0 3	7 0 2	7 3 9	7 2 9	7 2 9	6 6 0	6 4 2	7 3 0	7 2 9	7 0 2	7 3 0	5 8 7	7 2 9	7 2 9	6 1 8	7 3 0	males (cont...)
	ANIMAL ID	0 0 0 0 1	0 0 0 0 2	0 0 0 0 3	0 0 0 0 4	0 0 0 0 5	0 0 0 0 6	0 0 0 0 7	0 0 0 0 8	0 0 0 0 9	0 0 0 0 0	0 0 0 0 1	0 0 0 0 1	0 0 0 0 2	0 0 0 0 3	0 0 0 0 4	0 0 0 0 5	0 0 0 0 6	0 0 0 0 7	0 0 0 0 8	0 0 0 0 9	0 0 0 0 0	0 0 0 0 1	0 0 0 0 2	0 0 0 0 3	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Epididymis		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Penis Inflammation, Chronic Active																										
Preputial Gland Cyst Hyperplasia		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Prostate Hyperplasia Inflammation, Suppurative		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		2	1	2	2	2	1			1	2	1	1		1	2	3		2		2		1	2	3	2
Seminal Vesicle		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Testes Germinal Epithelium, Atrophy Interstitial Cell, Hyperplasia		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
						3				2							3									

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph Node		+			+					+					+										
Lymph Node, Bronchial	M	+	+	M	+	M	M	M	M	M	M	M	M	M	+	M	M	M	M	M	M	M	M	M	M

		DAY ON TEST																										
		7 2 9	7 2 9	6 8 8	7 3 0	7 2 9	6 2 4	7 1 8	7 2 9	6 0 3	7 0 2	7 2 3	7 2 9	7 2 9	6 6 0	6 4 2	7 3 0	7 2 9	7 0 2	7 3 0	5 8 7	7 2 9	7 2 9	6 1 8	7 3 0			
																												
FISCHER 344 RATS MALE CONTROL	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	males (cont...)	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2		
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5		
Lymph Node, Mandibular		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
Lymph Node, Mediastinal Angiectasis		+	M	M	M	M	+	+	+	M	+	+	M	M	M	M	M	+	M	M	M	M	M	+	+	M		
Lymph Node, Mesenteric		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Spleen		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Accessory Spleen																												
Fibrosis				3																		X						
Hematopoietic Cell Proliferation																												
Necrosis																						4	2					
Thymus		+	+	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+		

INTEGUMENTARY SYSTEM

Mammary Gland	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Galactocele																										
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cyst Epithelial Inclusion																										
Ulcer																										
Subcutaneous Tissue, Mineralization																										

MUSCULOSKELETAL SYSTEM

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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DAY ON TEST		7	7	6	7	7	6	7	7	6	7	7	7	7	6	6	7	7	7	7	5	7	7	6	7	
		2	2	8	3	2	2	1	2	0	0	2	3	2	2	6	4	3	2	0	3	8	2	2	1	3
		9	9	8	0	9	4	8	9	3	2	9	0	9	9	0	2	0	9	2	0	7	9	9	8	0
.....																										
FISCHER 344 RATS MALE CONTROL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
		males (cont...)																								

Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperostosis																									
Skeletal Muscle																									

NERVOUS SYSTEM

Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Compression	4											3		4				4		4		4	4	4	
Hemorrhage						4	4								3										
Cerebrum, Necrosis, Focal																								3	
Peripheral Nerve																									
Spinal Cord																									

RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Foreign Body																								1	
Inflammation, Suppurative																								1	
Inflammation, Chronic																									
Respiratory Epithelium, Metaplasia, Squamous																									
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemorrhage							3			2		2			2				2						
Inflammation, Chronic	1																							3	

		7	7	6	7	7	6	7	7	6	7	7	7	7	6	6	7	7	7	7	5	7	7	6	7		
DAY ON TEST		2	2	8	3	2	2	1	2	0	0	2	3	2	2	4	3	2	0	3	8	2	2	1	3		
		9	9	8	0	9	4	8	9	3	2	9	0	9	9	2	0	9	2	0	7	9	9	8	0		
																											
FISCHER 344 RATS MALE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CONTROL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2		
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	males (cont...)
Thrombosis		3																									
Alveolar Epithelium, Hyperplasia		1																									
Alveolus, Infiltration Cellular, Histiocyte		2																									
Interstitial, Fibrosis		1																									
																											
Nose		+ +																									
Foreign Body		X																									
Inflammation, Suppurative		2 2 1 1 3																									
Glands, Dilatation																											
Goblet Cell, Hyperplasia		2 1																									
Nasolacrimal Duct, Inflammation, Suppurative		2 1																									
Olfactory Epithelium, Degeneration																											
Olfactory Epithelium, Degeneration, Hyaline																											
Olfactory Epithelium, Metaplasia		2																									
Respiratory Epithelium, Degeneration, Hyaline																											
																											
Pleura		+																									
Inflammation, Chronic		1																									
																											
Trachea		+ +																									

SPECIAL SENSES SYSTEM

Eye		+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+
Cornea, Mineralization																									
Lens, Cataract								3																	

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DAY ON TEST																											
																											
FISCHER 344 RATS MALE		0 0 0 0 1	0 0 0 0 2	0 0 0 0 3	0 0 0 0 4	0 0 0 0 5	0 0 0 0 6	0 0 0 0 7	0 0 0 0 8	0 0 0 0 9	0 0 0 0 0	0 0 0 0 1	0 0 0 0 1	0 0 0 0 2	0 0 0 0 3	0 0 0 0 4	0 0 0 0 5	0 0 0 0 6	0 0 0 0 7	0 0 0 0 8	0 0 0 0 9	0 0 0 0 0	0 0 0 0 1	0 0 0 0 2	0 0 0 0 3	0 0 0 0 4	0 0 0 0 5
CONTROL																											
		males (cont...)																									
Retina, Atrophy Sclera, Metaplasia, Osseous		3		2	2					2	1	2					2		1	3	2	2	1	2	1		
																											
Harderian Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
																											
URINARY SYSTEM																											
																											
Kidney		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Cyst																			X								
Infarct																											
Nephropathy		3	3	4	2	2			3			2	1	2	1	2	1	2	2	2	3	2	4	4	4	2	
Glomerulus, Fibrosis				4																							
Papilla, Mineralization				1								1			2	1		1		1	1						
Pelvis, Transitional Epithelium, Hyperplasia								3																			
Pelvis, Transitional Epithelium, Mineralization			3																								
																											
Urinary Bladder		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Calculus Micro Observation Only										3								3									
Hemorrhage							4																				
Inflammation, Suppurative																									3		
Transitional Epithelium, Hyperplasia																									2		

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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		6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6
DAY ON TEST		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2
FISCHER 344 RATS MALE CONTROL	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	* TOTALS

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50			
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	48		
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	46		
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	46		
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Basophilic Focus									X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X	2		
Clear Cell Focus									X	X				X		X									X	8			
Clear Cell Focus, Multiple																										1			
Degeneration, Cystic									2																	2	2.5		
Necrosis												3														2	3.5		
Vacuolization Cytoplasmic						4										2					4					3	3.3		
Bile Duct, Hyperplasia	2	2	1	1			1	1	1				1	2	2		1		2			4		2	1	1	1	30	1.6
Mesentery			+		+	+								+				+	+		+				+		15		
Necrosis			3		3	3								3				3	3		2				3			15	2.9

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BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
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2) Mild 4) Marked

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FISCHER 344 RATS MALE CONTROL	DAY ON TEST	6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6
		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
		* TOTALS																								

Oral Mucosa																									1				
Gingival, Hyperplasia, Squamous, Focal																										1			
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	2	3.0		
Acinus, Atrophy																									3				
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50				
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	1	3.0		
Hyperplasia, Squamous																										1	3.0		
Necrosis																										1	4.0		
Ulcer																									4	4	4	4	4.0
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	2	1.5		
Erosion	2																												
Ulcer																									4	1	4.0		

CARDIOVASCULAR SYSTEM

Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cardiomyopathy																										7 1.9
Atrium, Thrombosis	4																									3 4.0
Valve, Thrombosis	3																									1 3.0

ENDOCRINE SYSTEM

		6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6		
DAY ON TEST		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8		
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2		
FISCHER 344 RATS MALE CONTROL	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5		
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	* TOTALS	
Adrenal Cortex		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Atrophy																				4							1	4.0
Hyperplasia								2															2		3		14	2.4
Hypertrophy																		2									2	2.0
Mineralization																							3				1	3.0
Vacuolization Cytoplasmic															2		3				1				3		9	2.2
Adrenal Medulla		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Atrophy																				4							1	4.0
Hyperplasia			3										1		4			3	3		2						15	3.0
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Hyperplasia																											1	3.0
Parathyroid Gland		+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	47		
Hyperplasia								2																			1	2.0
Pituitary Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
Hyperplasia										4					4		2	1					2	1			9	2.6
Thyroid Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
C-cell, Hyperplasia				1									1	2									3				8	1.9

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

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		6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6
DAY ON TEST		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2
FISCHER 344 RATS MALE CONTROL	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
		* TOTALS																								
Epididymis		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Penis																										
Inflammation, Chronic Active																										
Preputial Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cyst																										
Hyperplasia																										
Prostate		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hyperplasia																										
Inflammation, Suppurative		2	1	2		3	1	1	1				1	2	2	1	1				2			1	2	
Seminal Vesicle		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Testes		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Germinal Epithelium, Atrophy																										
Interstitial Cell, Hyperplasia																										

HEMATOPOIETIC SYSTEM

Bone Marrow		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymph Node																										6
Lymph Node, Bronchial		M	M	M	+	M	M	M	M	M	M	M	+	M	M	+	M	M	M	M	+	M	+	M	+	10

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		6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6	
DAY ON TEST		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8	
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2	
FISCHER 344 RATS MALE CONTROL	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	* TOTALS

Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0
Lymph Node, Mediastinal Angiectasis	+	M	M	M	+	M	M	M	+	M	+	+	M	M	M	M	M	M	M	M	+	M	M	+	+	17
					3																					1 3.0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Accessory Spleen																										1
Fibrosis														4												2 3.5
Hematopoietic Cell Proliferation															4											1 4.0
Necrosis																								4		3 3.3
Thymus	+	+	+	+	+	+	+	+	+	+	M	+	M	+	+	+	+	M	M	M	+	+	M	+	+	42

INTEGUMENTARY SYSTEM

Mammary Gland	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	48
Galactoceles																				4						2 4.0
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cyst Epithelial Inclusion																										2 4.0
Ulcer																										1 4.0
Subcutaneous Tissue, Mineralization																										1 3.0

MUSCULOSKELETAL SYSTEM

		6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6	
DAY ON TEST		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8	
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2	
FISCHER 344 RATS MALE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CONTROL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	* TOTALS
Bone		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Hyperostosis		3																									1 3.0
Skeletal Muscle		+																									2
NERVOUS SYSTEM																											
Brain		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Compression		4 4																									11 3.9
Hemorrhage		3																									7 3.3
Cerebrum, Necrosis, Focal		2 4																									1 3.0
Peripheral Nerve		+																									1
Spinal Cord		+																									1
RESPIRATORY SYSTEM																											
Larynx		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Foreign Body		2																									4 2.8
Inflammation, Suppurative		1																									6 1.2
Inflammation, Chronic		1																									4 1.8
Respiratory Epithelium, Metaplasia, Squamous		2																									1 2.0
Lung		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Hemorrhage		2																									7 2.1
Inflammation, Chronic		3																									4 2.0

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TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

	DAY ON TEST	6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6
		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2
FISCHER 344 RATS MALE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CONTROL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
		* TOTALS																								

Thrombosis																										1	3.0
Alveolar Epithelium, Hyperplasia					2																					3	2.3
Alveolus, Infiltration Cellular, Histocyte					2	1				1							1				1			1		11	1.4
Interstitial, Fibrosis										2																3	1.7

Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Foreign Body					X			X														X				6
Inflammation, Suppurative					2		3	3		2												1				10 2.0
Glands, Dilatation			3																					2		3 2.0
Goblet Cell, Hyperplasia							3	3															2			5 2.2
Nasolacrimal Duct, Inflammation, Suppurative																										2 1.5
Olfactory Epithelium, Degeneration																							2			1 2.0
Olfactory Epithelium, Degeneration, Hyaline													2													1 2.0
Olfactory Epithelium, Metaplasia																								1		2 1.5
Respiratory Epithelium, Degeneration, Hyaline													2										1			2 1.5

Pleura																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</
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Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
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SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Cornea, Mineralization											4																1	4.0
Lens, Cataract											4					2											3	3.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

	DAY ON TEST	6	7	7	7	6	6	7	6	7	7	5	7	7	4	5	7	3	7	6	7	5	7	6	5	6	
		7	2	3	3	6	8	2	7	3	2	5	3	2	9	2	2	4	2	4	3	9	2	8	4	8	
		3	9	0	0	6	8	9	1	0	9	4	0	9	5	2	9	5	9	6	0	0	9	1	8	2	
FISCHER 344 RATS MALE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CONTROL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	* TOTALS
Retina, Atrophy											4																1 4.0
Sclera, Metaplasia, Osseous		1	2	2	2	2	1	1	1	2	2		1		1			1		2	3		2		2	2	32 1.8
Harderian Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
URINARY SYSTEM																											
Kidney		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Cyst																											2
Infarct															X							X					3
Nephropathy		2	2	1	2	1	3	2	1	3	2		2	2			2	1	2		4		1	1	1	3	41 2.2
Glomerulus, Fibrosis																											1 4.0
Papilla, Mineralization			1										1						1				1		1		12 1.1
Pelvis, Transitional Epithelium, Hyperplasia																											1 3.0
Pelvis, Transitional Epithelium, Mineralization																											1 3.0
Urinary Bladder		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Calculus Micro Observation Only																											2 3.0
Hemorrhage																											1 4.0
Inflammation, Suppurative																											1 3.0
Transitional Epithelium, Hyperplasia																											1 2.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

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TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

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First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

DAY ON TEST		7	6	7	6	7	7	7	5	7	6	7	7	7	7	7	6	7	7	7	7	6	7	7			
		2	3	3	4	3	3	2	7	3	3	3	2	2	2	3	2	8	2	2	3	2	2	1	0	3	
		9	3	0	6	0	0	9	9	0	7	0	9	3	9	0	9	4	9	9	0	9	9	2	0	0	
FISCHER 344 RATS MALE 100 PPM		.....																									
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	males (cont...)

males
(cont...)

ALIMENTARY SYSTEM

Esophagus

+ +

Intestine Large, Cecum

+ + + + + + + + + A + + + + + + + + + + + + + + +

Ulcer

Epithelium, Atrophy

Intestine Large, Colon

+ + + + + + + + + A + + + + + + + + + + + + + + +

Intestine Large, Rectum

+ +

Intestine Small, Duodenum

+ + + + + + + + + A + + + + + + + + + + + + + + +

Ulcer

Intestine Small, Ileum

+ + + + + + + + + A + + + + + + + + + + + + + + +

Intestine Small, Jejunum

+ + + + + + + + + A + + + + + + + + + + + + + + +

Inflammation, Chronic Active

Epithelium, Ulcer

Liver

+ +

Angiectasis

Basophilic Focus

X

X

X

X

X

Basophilic Focus, Multiple

Bile Stasis

Clear Cell Focus

X

X

X

X

Degeneration, Cystic

4

1

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | DAY ON TEST | | | |
|----------------------------------|-----------|---|--------------------|--|--|
| | | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | | | | |
| | | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 7 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 3 | 2 | 2 | 1 | 0 | 3 | | | |
| | | 9 | 3 | 0 | 6 | 0 | 0 | 9 | 9 | 0 | 7 | 0 | 9 | 3 | 9 | 0 | 9 | 4 | 9 | 9 | 0 | 9 | 9 | 2 | 0 | 0 | | | |
| | | | | | |
| FISCHER 344 RATS MALE
100 PPM | ANIMAL ID | 0 | 0 | | | |
| | | 0 | 0 | | | |
| | | 2 | 2 | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | males
(cont...) | | |
| Hepatodiaphragmatic Nodule | | 4 | | | |
| Necrosis | | 4 | | | |
| Thrombosis | | 3 | | | |
| Vacuolization Cytoplasmic | | 2 | | | |
| Bile Duct, Dilatation | | 4 | | | |
| Bile Duct, Hyperplasia | | 3 2 2 1 1 2 2 1 2 2 2 2 3 1 2 2 2 2 1 1 1 2 | | | |
| Mesentery | | | | | |
| Necrosis | | + + 3 3 3 3 3 3 | | | |
| Fat, Hemorrhage | | 3 | | | |
| Pancreas | | + | | | |
| Acinus, Atrophy | | | | | |
| Salivary Glands | | + | | | |
| Stomach, Forestomach | | + | | | |
| Ulcer | | | | | |
| Epithelium, Mineralization | | | | | |
| Stomach, Glandular | | + | | | |
| Epithelium, Mineralization | | | | | |
| Tongue | | + | | | |

CARDIOVASCULAR SYSTEM

Blood Vessel

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Page 19

| | | |
|--------------------------------------|--|-----------------|
| DAY ON TEST | | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | | |
| | | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 7 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 3 | 2 | 2 | 1 | 0 | 3 |
| | | 9 | 3 | 0 | 6 | 0 | 0 | 9 | 9 | 0 | 7 | 0 | 9 | 3 | 9 | 0 | 9 | 4 | 9 | 9 | 0 | 9 | 9 | 2 | 0 | 0 |
| | | |
| FISCHER 344 RATS MALE

100 PPM | | 0 | 0 | |
| | | 0 | 0 | |
| | | 2 | 2 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | males (cont...) | |

| |
|---------------------------------|
| Heart | + |
| Cardiomyopathy | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| Atrium, Myocardium, Hypertrophy | 3 | |
| Atrium, Thrombosis | | 4 | |
| Myocardium, Hypertrophy | | 3 | |

ENDOCRINE SYSTEM

| |
|---------------------------|
| Adrenal Cortex | + |
| Atrophy |
| Hyperplasia | | | | | | | | | | | | 1 | | 4 | | | | 2 | 2 | | | | | |
| Hypertrophy |
| Vacuolization Cytoplasmic | 3 | | | | 1 | 1 | 2 | | | | 2 | | | | 2 | | 1 | 4 | 2 | | 4 | 4 | | 2 |
| Adrenal Medulla | + |
| Hyperplasia | | 2 | 3 | | 4 | | | | 3 | | | 2 | | | | 3 | | 3 | 1 | | | | | |
| Islets, Pancreatic | + |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | |
| Parathyroid Gland | + |
| Pituitary Gland | + |
| Cyst |
| Hemorrhage | | | | | | | | | | | 4 | | | | | | | | | | | | | |
| Hyperplasia | | | | | 2 | | 3 | | | | | | | | | | | 4 | | 4 | | | | |

| | | |
|-------------------------------------|--|-----------------|
| DAY ON TEST | | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | |
| | | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 7 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 3 | 2 | 2 | 1 | 0 | 3 |
| | | 9 | 3 | 0 | 6 | 0 | 0 | 9 | 9 | 0 | 7 | 0 | 9 | 3 | 9 | 0 | 9 | 4 | 9 | 9 | 0 | 9 | 9 | 2 | 0 |
| FISCHER 344 RATS MALE | | 0 | 0 | |
| ANIMAL ID | | 0 | 0 | |
| 100 PPM | | 2 | 2 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | |
| | | males (cont...) | |
| Thyroid Gland | | + | + | |
| C-cell, Hyperplasia | | | | | | | | | | | 3 | | | | | | | | 1 | 3 | | 2 | | | |
| Follicular Cell, Hyperplasia | | | | | | | | | | | | | | | 3 | 2 | | | | | | | | | |
| GENERAL BODY SYSTEM | | |
| Peritoneum | | + |
| GENITAL SYSTEM | | |
| Epididymis | | + | + | |
| Preputial Gland | | + | + | |
| Cyst | | | | | | | | | | | | 3 | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | 4 | | | | | | | | | | | | | |
| Prostate | | + | + | |
| Inflammation, Suppurative | | 2 | 2 | | 1 | 1 | | 1 | | | | 1 | 2 | | | 3 | 2 | 2 | 2 | 1 | | 2 | | 1 | |
| Seminal Vesicle | | + | + | |
| Inflammation, Suppurative | | |
| Testes | | + | + | |
| Germinal Epithelium, Atrophy | | | | | | 4 | | | | | | | | | 4 | | | | | | | | 4 | | |
| Germinal Epithelium, Mineralization | | |
| Interstitial Cell, Hyperplasia | | | | | | | | | 2 | | | | 1 | 1 | | | | | | | | | | | |

| | | |
|----------------------------------|-------------|-----------------------|
| FISCHER 344 RATS MALE
100 PPM | DAY ON TEST | 7
2
9 | 6
3
3 | 7
3
0 | 6
4
6 | 7
3
0 | 7
3
0 | 7
2
9 | 5
7
9 | 7
3
0 | 6
3
7 | 7
3
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2
9 | 7
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3 | 7
2
9 | 7
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8
4 | 7
2
9 | 7
2
3 | 7
2
0 | 7
2
9 | 6
1
2 | 7
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3
0 |
| | ANIMAL ID | 0
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5 | 0
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8 | 0
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9 | 0
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1
1 | 0
0
2
1
1 | 0
0
2
1
7 | 0
0
2
1
8 | 0
0
2
2
9 | 0
0
2
2
0 | 0
0
2
2
1 | 0
0
2
2
2 | 0
0
2
2
3 | 0
0
2
2
4 |
| | | 0 |
| | | 0 |
| | | 2 |

males
(cont...)

HEMATOPOIETIC SYSTEM

| | |
|--|---|
| Bone Marrow | + |
| Lymph Node | + | | | | | | | + | | | | | | | | | | | | | | | | |
| Lymph Node, Bronchial | + | M | + | M | M | M | M | M | + | M | M | M | M | M | M | M | M | + | M | M | M | M | + | M |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | + | M |
| Lymph Node, Mediastinal
Hemorrhage
Hyperplasia, Lymphoid | + | M | + | + | M | M | + | M | + | M | + | M | + | + | M | + | + | M | M | M | M | + | M | + |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + |
| Spleen | + |
| Fibrosis | |
| Hematopoietic Cell Proliferation |
| Hemorrhage | |
| Hyperplasia, Lymphoid |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Necrosis | |
| | |
| Thymus | + |
| Cyst | |

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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| | | | |
|----------------------------------|--|-------------|-----------------------|
| FISCHER 344 RATS MALE
100 PPM | | DAY ON TEST | 7
2
9 | 6
3
3 | 7
3
0 | 6
4
6 | 7
3
0 | 7
3
0 | 5
7
9 | 7
3
0 | 6
3
7 | 7
3
0 | 7
2
9 | 7
2
3 | 7
2
9 | 7
2
0 | 6
8
4 | 7
2
9 | 7
2
9 | 7
3
0 | 7
2
9 | 7
2
9 | 6
1
2 | 7
0
0 | 7
3
0 | |
| | | | |
| | | ANIMAL ID | 0
0
2
0
1 | 0
0
2
0
2 | 0
0
2
0
3 | 0
0
2
0
4 | 0
0
2
0
5 | 0
0
2
0
6 | 0
0
2
0
7 | 0
0
2
0
8 | 0
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0
9 | 0
0
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1 | 0
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1 | 0
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7 | 0
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1
8 | 0
0
2
2
9 | 0
0
2
2
0 | 0
0
2
2
1 | 0
0
2
2
2 | 0
0
2
2
3 | 0
0
2
2
4 | 0
0
2
2
5 |
| males
(cont...) | | | |

| | |
|--|---|
| Mammary Gland
Galactoceles
Hyperplasia | + |
| Skin
Cyst Epithelial Inclusion
Hyperkeratosis
Hyperplasia, Squamous
Inflammation, Chronic
Ulcer | + |
| | 4 | | | 4 | |
| | | | | | | | | | | | | | | 3 | | | | | | | | | | | |
| | | | | 4 | | | | | | | | | | 4 | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| |
|-----------------|
| Bone | + |
| Skeletal Muscle | |

NERVOUS SYSTEM

| |
|------------------------------------|
| Brain
Compression
Hemorrhage | + |
| | | | | 4 | | 4 | | | 3 | 2 | 3 | 4 | | | 4 | | | | | | 4 | | | | |
| | | | | | | | | | | | | 4 | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| |
|--------|
| Larynx | + |
|--------|

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | | |
|---|--|---|
| DAY ON TEST | | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 7 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 3 | 2 | 2 | 1 | 0 | 3 |
| | | 9 | 3 | 0 | 6 | 0 | 0 | 9 | 9 | 0 | 7 | 0 | 9 | 3 | 9 | 0 | 9 | 4 | 9 | 9 | 0 | 9 | 9 | 2 | 0 | 0 |
| FISCHER 344 RATS MALE | | 0 | |
| 100 PPM | | 0 | |
| ANIMAL ID | | 2 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| Foreign Body | | | | | | | | | | | | | 4 | 4 | | | 4 | | | | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | 1 | 2 | 2 | 2 | | | 2 | | | | | 1 | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| Lung | | + | |
| Hemorrhage | | | | | | | | | 3 | | | | | | | | | | | 3 | | 2 | | | | |
| Inflammation, Chronic | | | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | | | | | | | 4 | | | | 2 | | | | | | | 2 | | | | | 3 | | | |
| Alveolus, Emphysema | | | | | | | | | | | | 2 | | | | | | | | | | | | 2 | | |
| Alveolus, Infiltration Cellular, Histiocyte | | | 3 | | | 1 | | 2 | | | 2 | | | 1 | | | 1 | 1 | | 1 | | | | | | |
| Nose | | + | |
| Foreign Body | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | 2 | | 3 | | 3 | | | | | 1 | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | | 1 | | | | | | | | | | | |
| Glands, Dilatation | | | | | | | 2 | | | | | | 2 | 2 | | | 2 | | | 2 | | | | | | |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | | | | 2 | | | | | 2 | | | | 2 | | |
| Nasolacrimal Duct, Inflammation, Suppurative | | |
| Olfactory Epithelium, Degeneration | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | 2 | | |
| Olfactory Epithelium, Degeneration, Hyaline | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Olfactory Epithelium, Hyperplasia, Basal Cell | | 1 | 1 | | | | 1 | 1 | 1 | | | | | | 1 | 1 | | | | | 1 | | | 1 | | |
| Olfactory Epithelium, Metaplasia | | |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Pleura | | | | | | | | + | | | + | | | + | | | + | | | + | | | | | | |
| Inflammation, Chronic | | | | | | | | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | | | | |
| Mesothelium, Hyperplasia | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | | | |
|----------------------------------|--|-----------|--------------------|---|
| DAY ON TEST | | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | | |
| | | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 7 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 3 | 2 | 2 | 1 | 0 | 3 | |
| | | 9 | 3 | 0 | 6 | 0 | 0 | 9 | 9 | 0 | 7 | 0 | 9 | 3 | 9 | 0 | 9 | 4 | 9 | 9 | 0 | 9 | 9 | 2 | 0 | 0 | |
| FISCHER 344 RATS MALE
100 PPM | | | | |
| | | ANIMAL ID | | |
| | | 0 | 0 | |
| | | 0 | 0 | |
| | | 2 | 2 | |
| 100 PPM | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | males
(cont...) | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | | 5 |
| | | | | |

Trachea

+ +

SPECIAL SENSES SYSTEM

| | | |
|-------------------------------|-------|--|
| Eye | + | + | |
| Cornea, Hyperplasia, Squamous | | |
| Sclera, Metaplasia, Osseous | 2 | 1 | | | 1 | | 2 | 2 | 1 | | 3 | 1 | 3 | 2 | | 2 | | 1 | | 2 | 1 | | 3 | 1 | | |
| | <hr/> | |
| Harderian Gland | + | + | |
| | <hr/> | |
| Zymbal's Gland | | |

URINARY SYSTEM

| | | |
|--|---|--|
| Kidney | + | |
| Cyst | | | | | X | | | | | | | | | | | | | | | X | | | | | | |
| Nephropathy | 2 | | 1 | 2 | 1 | 2 | 3 | 1 | 3 | 2 | 3 | 4 | 1 | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | 2 | 1 | 3 | 2 | |
| Bilateral, Pelvis, Dilatation | |
| Papilla, Mineralization | | 1 | | | | 1 | 1 | | | | 1 | 1 | | | | 1 | | | | 1 | 1 | | | | | |
| Pelvis, Transitional Epithelium, Hyperplasia | 2 | |
| Pelvis, Dilatation | |
| Renal Tubule, Casts | | 1 | |
| Renal Tubule, Mineralization | |
| <hr/> | | |
| Urinary Bladder | + | |
| Calculus Micro Observation Only | | | | | | | | | | | | | | | | 3 | | | | | | | | | | |
| Hemorrhage | |
| Inflammation, Chronic | |

| | | |
|---|--|-----------------|
| DAY ON TEST | | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | | |
| | | 2 | 3 | 3 | 4 | 3 | 3 | 2 | 7 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 8 | 2 | 2 | 3 | 2 | 2 | 1 | 0 | 3 |
| | | 9 | 3 | 0 | 6 | 0 | 0 | 9 | 9 | 0 | 7 | 0 | 9 | 3 | 9 | 0 | 9 | 4 | 9 | 9 | 0 | 9 | 9 | 2 | 0 | 0 |
| FISCHER 344 RATS MALE

100 PPM

ANIMAL ID | | 0 | 0 | |
| | | 0 | 0 | |
| | | 2 | 2 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| Transitional Epithelium, Hyperplasia | | males (cont...) | |

| | | | |
|--------------------------------------|--|-------------|---|
| DAY ON TEST | | 7
3
0 | 7
3
0 | 7
3
0 | 7
2
9 | 7
2
6 | 5
6
2 | 7
3
0 | 7
3
0 | 5
2
9 | 7
3
0 | 7
0
5 | 6
6
0 | 7
2
9 | 7
2
9 | 6
0
3 | 7
2
9 | 6
6
3 | 7
0
8 | 6
8
4 | 7
2
9 | 7
2
9 | 7
2
9 | 6
2
4 | 7
2
3 | |
| | | | |
| | | | |
| FISCHER 344 RATS MALE

100 PPM | | ANIMAL ID | | |
| | | 0 | 0 |
| | | 0 | 0 |
| | | 2 | 2 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | | |

ALIMENTARY SYSTEM

| | |
|------------------------------|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | A | + | 47 |
| Ulcer | | | | | | | | | | 3 | | | | | | | | | | | | | | | | 1 3.0 |
| Epithelium, Atrophy | | | | | | | | | | 3 | | | | | | | | | | | | | | | | 1 3.0 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | A | + | 47 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | 48 |
| Ulcer | | | | | | | | | | | | | | | | | | | 4 | | | | | | | 1 4.0 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | A | + | 47 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | A | + | 47 |
| Inflammation, Chronic Active | | | | | | | | | | 3 | | | | | | | | | | | | | | | | 1 3.0 |
| Epithelium, Ulcer | | | | | | | | | | 4 | | | | | | | | | | | | | | | | 1 4.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | | | | | 4 | | | | | | | | | | | | | | | 1 4.0 |
| Basophilic Focus | X | | | | | | | | | | | | | | | | | | | | X | X | | | | 8 |
| Basophilic Focus, Multiple | | | | | | | | | | | | | | | | X | | | | | | | | | | 1 |
| Bile Stasis | | | | | | | | | | | | | | | 4 | | | | | | | | | | | 1 4.0 |
| Clear Cell Focus | X | | X | | | | | | | | | | | | | | | | | X | | | | | | 7 |
| Degeneration, Cystic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 2.5 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | | |
|----------------------------------|-------------|----------|--------|
| FISCHER 344 RATS MALE
100 PPM | DAY ON TEST | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
| | | 3 | 3 | 3 | 2 | 2 | 6 | 3 | 3 | 2 | 3 | 0 | 6 | 2 | 2 | 0 | 2 | 6 | 0 | 3 | 8 | 2 | 2 | 2 | 2 | 3 |
| | | 0 | 0 | 0 | 9 | 6 | 2 | 0 | 0 | 9 | 0 | 5 | 0 | 9 | 9 | 3 | 9 | 3 | 8 | 0 | 4 | 9 | 9 | 9 | 4 | 0 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
|  |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| Hepatodiaphragmatic Nodule | | 2 4.0 | |
| Necrosis | | 2 2.5 | |
| Thrombosis | | 1 3.0 | |
| Vacuolization Cytoplasmic | | 1 2.0 | |
| Bile Duct, Dilatation | | 2 4.0 | |
| Bile Duct, Hyperplasia | | 2 | 2 | 2 | 2 | 3 | | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | | 3 | | 1 | | 42 1.7 |
| Mesentery | | | | + | | + | | | | | | | | + | + | + | | | + | | | + | + | | | 15 |
| Necrosis | | | | 3 | | 3 | | | | | | | | 3 | 2 | 3 | | | 3 | | | 3 | 3 | | | 14 2.9 |
| Fat, Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Pancreas |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Acinus, Atrophy | | | | | | | | | | | | | | | | 3 | | | | | 3 | | | | | 2 3.0 |
| Salivary Glands |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Ulcer | | | | | | 4 | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Epithelium, Mineralization | | | | | | | | | | | | | | | | | | | 3 | | | | | | | 1 3.0 |
| Stomach, Glandular |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Epithelium, Mineralization | | | | | | | | | | | | | | | | | | | 3 | | | | | | | 1 3.0 |
| Tongue |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |

CARDIOVASCULAR SYSTEM

| | |
|--------------|---|
| Blood Vessel | 1 |
|--------------|---|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | | | |
|--------------------------------------|--|-------------|---|----------|
| | | DAY ON TEST | | | |
| | | 7
3
0 | 7
3
0 | 7
3
0 | 7
2
9 | 7
2
6 | 5
6
2 | 7
3
0 | 7
3
0 | 5
2
9 | 7
3
0 | 7
0
5 | 6
6
0 | 7
2
9 | 7
2
9 | 6
0
3 | 7
2
9 | 6
6
3 | 7
0
8 | 6
8
4 | 7
2
9 | 7
2
9 | 7
2
9 | 6
2
4 | 7
2
3 | | |
| | | | | |
| FISCHER 344 RATS MALE

100 PPM | | ANIMAL ID | | | |
| | | 0 | | |
| | | 0 | | |
| | | 2 | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |

| | | | |
|---------------------------------|----|---|-----|
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cardiomyopathy | | | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 1.7 |
| Atrium, Myocardium, Hypertrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |
| Atrium, Thrombosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Myocardium, Hypertrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |

ENDOCRINE SYSTEM

| | | | |
|---------------------------|----|----|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Atrophy | | | | | | | | 4 | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Hyperplasia | | | | | | | 3 | | | | 3 | | 2 | | | | | 4 | | 3 | | 3 | | | | | 10 | 2.7 |
| Hypertrophy | | | | | | | | | | | | | | | 2 | | | | | | 3 | | | | | | 2 | 2.5 |
| Vacuolization Cytoplasmic | 1 | | | 2 | 4 | 1 | | 2 | | 2 | | | | | | | | 1 | | | 1 | | | | 1 | | 21 | 2.0 |
| | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | 2 | 4 | | | 1 | 2 | | | | | 3 | | | | | | | | | | | | | | 13 | 2.5 |
| | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | 4 | | | | | | | | | | | | | 4 | | | | 3 | 4.0 |
| | | | |
| Parathyroid Gland | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| | | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | 1 | 4.0 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Hyperplasia | 4 | | | | | | 3 | | | | 3 | | | | | | | | | | | | | | 4 | | 8 | 3.4 |
| | | | |

| | | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
|----------------------------------|-----------|----------|
| DAY ON TEST | | 3 | 3 | 3 | 2 | 2 | 6 | 3 | 3 | 2 | 3 | 0 | 6 | 2 | 2 | 0 | 2 | 6 | 0 | 3 | 8 | 2 | 2 | 2 | 2 | 3 |
| | | 0 | 0 | 0 | 9 | 6 | 2 | 0 | 0 | 9 | 0 | 5 | 0 | 9 | 9 | 3 | 9 | 3 | 8 | 0 | 4 | 9 | 9 | 9 | 4 | 0 |
| | | |
| FISCHER 344 RATS MALE
100 PPM | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 2 | 2 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | | |
|------------------------------|-------|-------|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| C-cell, Hyperplasia | | | | 4 | | | | | 1 | | | | | 2 | | | | | | | | | | 4 | 4 | | 9 2.7 |
| Follicular Cell, Hyperplasia | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 2.3 | |

GENERAL BODY SYSTEM

| | | | | |
|------------|---|--|--|---|
| Peritoneum | + | | | 2 |
|------------|---|--|--|---|

GENITAL SYSTEM

| | | | |
|-------------------------------------|----|----|-----|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 3.5 |
| Hyperplasia | | | | | | 4 | | | | | | | 4 | | | | | | | | | | 3 | | | | | 4 | 3.8 |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Suppurative | 1 | | | 1 | 1 | 3 | | | 2 | | | 1 | 1 | 2 | 3 | | 1 | 1 | 2 | 4 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 35 | 1.6 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Suppurative | | | | | | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Germinal Epithelium, Atrophy | | | | | | | 4 | | | | | | | | | | | | | | | | | | 4 | | | 5 | 4.0 |
| Germinal Epithelium, Mineralization | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Interstitial Cell, Hyperplasia | | | | | | 2 | | | | | | | | | | 2 | 1 | | | 2 | | | | | | | | 7 | 1.6 |

| | | | | | |
|----------------------------------|--|-------------|--|-----------------------|--|
| FISCHER 344 RATS MALE
100 PPM | | DAY ON TEST | | 7
3
0 | 7
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0 | 7
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9 | 7
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6 | 5
6
2 | 7
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4 | 7
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| | | ANIMAL ID | | 0
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| * TOTALS | | | | | |

HEMATOPOIETIC SYSTEM

| | | | |
|------------------------------------|-------|-------|-------|
| Bone Marrow | + | 50 | | |
| Lymph Node | + | | 3 | | |
| Lymph Node, Bronchial | M | M | M | M | M | + | M | M | + | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 8 | | |
| Lymph Node, Mandibular | M | M | M | M | M | M | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 2 | | |
| Lymph Node, Mediastinal Hemorrhage | + | + | M | + | + | + | M | M | M | M | M | + | + | M | + | + | M | M | + | M | + | M | M | + | M | 25 | |
| Hyperplasia, Lymphoid | 3 | 1 4.0 | 2 2.5 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Fibrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 | | |
| Hematopoietic Cell Proliferation | 3 | 1 3.0 | |
| Hemorrhage | 4 | 1 4.0 | |
| Hyperplasia, Lymphoid | 4 | 1 2.0 | |
| Necrosis | 4 | 3 3.7 | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | 49 | | |
| Cyst | 3 | 1 3.0 | |

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Page 31

| | | |
|--------------------------------------|--|-----------|
| DAY ON TEST | | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | | |
| | | 3 | 3 | 3 | 2 | 2 | 6 | 3 | 3 | 2 | 3 | 0 | 6 | 2 | 2 | 0 | 2 | 6 | 0 | 3 | 8 | 2 | 2 | 2 | 3 | |
| | | 0 | 0 | 0 | 9 | 6 | 2 | 0 | 0 | 9 | 0 | 5 | 0 | 9 | 9 | 3 | 9 | 3 | 8 | 0 | 4 | 9 | 9 | 9 | 4 | 0 |
| | | |
| FISCHER 344 RATS MALE

100 PPM | | ANIMAL ID | 0 | |
| | | 0 | 0 | |
| | | 2 | 2 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | |
|---------------------------|-------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | 49 |
| Galactoceles |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | | | | | 1 2.0 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst Epithelial Inclusion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | 3 4.0 |
| Hyperkeratosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | 3 | | | 2 3.5 |
| Hyperplasia, Squamous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | | | 1 3.0 |
| Ulcer |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 |

MUSCULOSKELETAL SYSTEM

| | |
|-----------------|----|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skeletal Muscle | | | | | | + | | | | | | | | | | | | | | | | | | | | 1 |

NERVOUS SYSTEM

| | |
|-------------|--------|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Compression |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | 11 3.6 |
| Hemorrhage | | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | 2 3.5 |

RESPIRATORY SYSTEM

| | |
|--------|----|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 49 |
|--------|----|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

BLANK .. Not examined microscopically

M .. Missing tissue
A .. Autolysis precludes evaluation

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | DAY ON TEST | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
|---|-------------|-----------------|---------------|
| | | 3 | 3 | 3 | 2 | 2 | 6 | 3 | 3 | 2 | 3 | 0 | 6 | 2 | 2 | 0 | 2 | 6 | 0 | 3 | 8 | 2 | 2 | 2 | 2 | 3 |
| | | 0 | 0 | 0 | 9 | 6 | 2 | 0 | 0 | 9 | 0 | 5 | 0 | 9 | 9 | 3 | 9 | 3 | 8 | 0 | 4 | 9 | 9 | 9 | 4 | 0 |
| FISCHER 344 RATS MALE | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 PPM | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | 4 | 5 4.0 |
| Inflammation, Chronic | | | | | | | | 2 | | | | | | | | 1 | | 1 | | | | | | 2 | 1 | 11 1.5 |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | 2 | | | | | | | | | | | | | | | | | 2 2.0 |
| Lung |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 2.7 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | 4 | | | | | | | | | | | | | | | | 1 | | 6 2.7 |
| Alveolus, Emphysema |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 2.0 |
| Alveolus, Infiltration Cellular, Histiocyte | | | | | | | | | 1 | | 3 | 1 | | | | | | | | | | | | 1 | | 12 1.5 |
| Nose |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Foreign Body | | | | | | | | | | | | X | X | | | | | | | X | | | | | | 4 |
| Inflammation, Suppurative | | | | | | | | | | | | 1 | 3 | | | 2 | | | 2 | | | | | | | 8 2.1 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |
| Glands, Dilatation | | | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | 7 2.1 |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | 2 | 1 | | | | | | | | | | | | | 5 1.8 |
| Nasolacrimal Duct, Inflammation, Suppurative | | | | | | | | | | | | | | | | | 2 | | | | | | | | | 1 2.0 |
| Olfactory Epithelium, Degeneration |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 1.3 |
| Olfactory Epithelium, Degeneration, Hyaline |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |
| Olfactory Epithelium, Hyperplasia, Basal Cell | | | | | | | | 1 | | 1 | | | | 1 | | 1 | | 1 | 1 | 1 | | 1 | | | | 17 1.0 |
| Olfactory Epithelium, Metaplasia | | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Respiratory Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Pleura |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 | |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 1.2 |
| Mesothelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | | |
|----------------------------------|-------------|-----------------------|----|
| FISCHER 344 RATS MALE
100 PPM | DAY ON TEST | 7
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| | ANIMAL ID | 0
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| | | 0 | |
| | | 2 | 2 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | * TOTALS | | |
| Trachea | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 49 |

SPECIAL SENSES SYSTEM

| | | |
|-------------------------------|----|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | 49 | |
| Cornea, Hyperplasia, Squamous | | | | 1 | | 1 | 1.0 |
| Sclera, Metaplasia, Osseous | 2 | 1 | 2 | | | | 3 | 2 | | 1 | | 2 | 2 | 2 | | 2 | 3 | | 2 | | 2 | 1 | | 1 | 2 | 32 | 1.8 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Zymbal's Gland |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | + | 1 | |

URINARY SYSTEM

| | |
|--|--------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Nephropathy | 2 | 3 | 4 | 2 | 3 | | 4 | 3 | | 3 | 2 | 1 | 1 | 2 | 1 | 2 | | 3 | 4 | 3 | 2 | 2 | 2 | 1 | 2 | 46 2.3 |
| Bilateral, Pelvis, Dilatation | | | | | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Papilla, Mineralization | 1 | 1 | | | | | 1 | | | | | | | | | 1 | | 1 | 1 | | | | 1 | 1 | | 16 1.0 |
| Pelvis, Transitional Epithelium, Hyperplasia | | | | | | | | | | 3 | | | | | | | | | | | | | | | | 2 2.5 |
| Pelvis, Dilatation | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 1 2.0 |
| Renal Tubule, Casts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |
| Renal Tubule, Mineralization | | | | | | | | | | | | | | | | | | 4 | | | | | | | | 1 4.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Calculus Micro Observation Only |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Hemorrhage | | | | | 4 | | | | | | | | | | | | | 4 | | | | | | | | 2 4.0 |
| Inflammation, Chronic | | | | | | | | | | 3 | | | | | | | | | | | | | | | | 1 3.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 34

| | | | |
|--------------------------------------|-----------|-----------------------|--|
| DAY ON TEST | | 7
3
0 | 7
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| FISCHER 344 RATS MALE
100 PPM | ANIMAL ID | 0
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| | | * TOTALS | | |
| Transitional Epithelium, Hyperplasia | | 4 | | | | | | | | | | 2 | | | | | | | | | | 2 3.0 | | | | | |

| | | | |
|--------------------------------------|--|-----------------------|--|
| DAY ON TEST | | 7
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2
9 | 6
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8 | 7
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7
4 | 6
5
6 | 7
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6 | 5
6
5 | 7
3
0 | 7
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0 | 2
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| FISCHER 344 RATS MALE

300 PPM | | ANIMAL ID | | |
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| | | | |
| | | | |
| | | males
(cont...) | | |

males
(cont...)

ALIMENTARY SYSTEM

| |
|----------------------------|
| Esophagus | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + | + | + | A | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + | + | + | + | A | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + | + | + | A | A | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + | + | + | A | A | + |
| Liver | + |
| Angiectasis |
| Basophilic Focus | | | X | | | | | | | X | | | | | | | | | | | | | | | |
| Clear Cell Focus | | | X | | | | | | | | | | | | | X | | | | | | | | | |
| Degeneration, Cystic |
| Hepatodiaphragmatic Nodule | | | | | | | 4 | | | | | | | | | 4 | | | 4 | | | 4 | 4 | | |
| Necrosis |
| Thrombosis |
| Vacuolization Cytoplasmic | | | | | | | 2 | | | 2 | | | | | | 3 | | | | | | | | | |
| Bile Duct, Hyperplasia | 2 | 1 | 2 | | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | | | | | 2 | 2 | 1 | 2 | 2 | | 2 | 1 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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Species/Strain: RATS/F 344

Pathologist: RENNE, R.

Lab: BNW

2) Mild 4) Marked

| | | |
|----------------------------------|-------------|-----------------|
| FISCHER 344 RATS MALE
300 PPM | DAY ON TEST | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 5 | 7 | 7 | 5 | 6 | 6 | 5 | 6 | 2 | 7 |
| | | 2 | 8 | 0 | 1 | 3 | 8 | 2 | 2 | 9 | 3 | 0 | 3 | 7 | 5 | 1 | 6 | 3 | 2 | 6 | 8 | 7 | 9 | 8 | 1 | 2 |
| | | 9 | 4 | 5 | 8 | 0 | 1 | 9 | 9 | 8 | 0 | 8 | 0 | 4 | 6 | 6 | 5 | 0 | 9 | 0 | 8 | 4 | 6 | 0 | 0 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 4 | 4 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | males (cont...) | |

Atrium, Thrombosis

3

ENDOCRINE SYSTEM

| |
|------------------------------|
| Adrenal Cortex | + |
| Hyperplasia | 2 | | | | | | 4 | 1 | | | | | | 3 | 2 | | | | 3 | | | | | | |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | | | | | |
| Vacuolization Cytoplasmic | | | 2 | | | 2 | | | | | 1 | | | | | | | | | | 2 | 3 | | 2 | |
| Adrenal Medulla | + |
| Hyperplasia | | | | | | | | | 2 | 2 | | | | | | | | | 3 | | | | | | |
| Islets, Pancreatic | + |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia |
| Pituitary Gland | + |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | | | | |
| Hyperplasia | | | | | | | | | | | 3 | | | | | | | | | | | | | | |
| Thyroid Gland | + |
| C-cell, Hyperplasia | | | 1 | | 1 | | | | | | | | | | | | | | 1 | | 4 | | | | 4 |
| Follicular Cell, Hyperplasia | |

GENERAL BODY SYSTEM

NONE

| | | |
|----------------------------------|-------------|-----------------|
| FISCHER 344 RATS MALE
300 PPM | DAY ON TEST | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 5 | 7 | 7 | 5 | 6 | 6 | 5 | 6 | 2 | 7 |
| | | 2 | 8 | 0 | 1 | 3 | 8 | 2 | 2 | 9 | 3 | 0 | 3 | 7 | 5 | 1 | 6 | 3 | 2 | 6 | 8 | 7 | 9 | 8 | 1 | 2 |
| | | 9 | 4 | 5 | 8 | 0 | 1 | 9 | 9 | 8 | 0 | 8 | 0 | 4 | 6 | 6 | 5 | 0 | 9 | 0 | 8 | 4 | 6 | 0 | 0 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 4 | 4 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | males (cont...) | |

GENITAL SYSTEM

| |
|--------------------------------------|
| Epididymis | + |
| Preputial Gland | + |
| Cyst | | | | 4 | |
| Hyperplasia | | | | 4 | |
| Inflammation, Suppurative | | | | 4 | |
| Prostate | + |
| Cyst |
| Hyperplasia |
| Inflammation, Suppurative | 1 | | | | | 2 | | | 1 | 1 | | 1 | 1 | 1 | | 2 | 1 | | 1 | 1 | 4 | | 4 | | 1 |
| Seminal Vesicle | + |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | |
| Dilatation |
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | |
| Testes | + |
| Artery, Inflammation, Chronic Active | | | | | | | | | | | | | | | 3 | | | | | | | | | | |
| Germinal Epithelium, Atrophy | | | | 4 | | | | | | 4 | | | | | | | | | | | 4 | | 4 | | |
| Interstitial Cell, Hyperplasia | | | | | | | | | | | 2 | 3 | | | | | 1 | | 2 | | | | | | |

HEMATOPOIETIC SYSTEM

| |
|-------------|
| Bone Marrow | + |
|-------------|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 39

| | | DAY ON TEST | | |
|---|--|-----------------------|--------------------|--|
| | | 7
2
9 | 6
8
4 | 7
0
5 | 6
1
8 | 7
3
0 | 6
8
1 | 7
2
9 | 7
2
9 | 6
9
8 | 7
3
0 | 7
0
8 | 7
3
0 | 6
7
4 | 6
5
6 | 7
1
6 | 5
6
5 | 7
3
0 | 7
2
9 | 5
6
0 | 6
8
8 | 6
7
4 | 5
9
6 | 6
8
0 | 2
1
0 | 7
2
9 | | |
| | | | | |
| FISCHER 344 RATS MALE | | 0
0
4
0
1 | 0
0
4
0
2 | 0
0
4
0
3 | 0
0
4
0
4 | 0
0
4
0
5 | 0
0
4
0
6 | 0
0
4
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7 | 0
0
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8 | 0
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4
0
9 | 0
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4
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0 | 0
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4
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1 | 0
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4
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2 | 0
0
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7 | 0
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4
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8 | 0
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4
2
9 | 0
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4
2
0 | 0
0
4
2
1 | 0
0
4
2
2 | 0
0
4
2
3 | 0
0
4
2
4 | 0
0
4
2
5 | males
(cont...) | |
| 300 PPM | | | | |
| | | | | |
| Lymph Node | | + | | | | | | | | | | | | | | | | | | | | + + | | | | | | |
| | | | | |
| Lymph Node, Bronchial
Hyperplasia, Histiocytic
Infiltration Cellular, Histiocyte | | + | + | M | M | M | M | M | M | M | + | M | M | + | M | M | M | + | + | M | M | + | + | M | M | M | | |
| | | | | |
| Lymph Node, Mandibular | | M | | |
| | | | | |
| Lymph Node, Mediastinal
Angiectasis
Infiltration Cellular, Histiocyte
Pigmentation | | M | M | M | M | M | M | + | M | M | M | M | + | + | M | M | + | M | M | + | + | M | M | M | + | M | | |
| | | | | |
| Lymph Node, Mesenteric | | + | | |
| | | | | |
| Spleen
Accessory Spleen
Fibrosis
Necrosis | | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | | |
| | | | | |
| | | | | |
| Thymus
Inflammation
Thrombosis | | M | + | + | M | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| | | | | |
| | | | | |

INTEGUMENTARY SYSTEM

| |
|---------------|
| Mammary Gland | + |
| Galactoceles | |

| | | |
|----------------------------------|-------------|-----------------|
| FISCHER 344 RATS MALE
300 PPM | DAY ON TEST | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 5 | 7 | 7 | 5 | 6 | 6 | 5 | 6 | 2 | 7 |
| | | 2 | 8 | 0 | 1 | 3 | 8 | 2 | 2 | 9 | 3 | 0 | 3 | 7 | 5 | 1 | 6 | 3 | 2 | 6 | 8 | 7 | 9 | 8 | 1 | 2 |
| | | 9 | 4 | 5 | 8 | 0 | 1 | 9 | 9 | 8 | 0 | 8 | 0 | 4 | 6 | 6 | 5 | 0 | 9 | 0 | 8 | 4 | 6 | 0 | 0 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 4 | 4 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | males (cont...) | |

| | |
|--|---|
| Skin | + |
| Hyperkeratosis |
| Inflammation, Chronic |
| Ulcer |
| Subcutaneous Tissue, Metaplasia, Osseous | 3 | |

MUSCULOSKELETAL SYSTEM

| |
|-------------------|
| Bone | + |
| Maxilla, Fracture |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | |
| Skeletal Muscle |

NERVOUS SYSTEM

| |
|----------------------------|
| Brain | + |
| Compression | | 4 | | | 2 | | | | 3 | 2 | | | | | | 3 | | | | | | | | | 3 |
| Hemorrhage | | | | | | | | | | | | | | | 4 | | | | | | | | 2 | | 2 |
| Choroid Plexus, Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | |
| Spinal Cord |

RESPIRATORY SYSTEM

| |
|--------|
| Larynx | + |
|--------|

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 5 | 7 | 7 | 5 | 6 | 6 | 5 | 6 | 2 | 7 |
|--|--|---|
| DAY ON TEST | | 2 | 8 | 0 | 1 | 3 | 8 | 2 | 2 | 9 | 3 | 0 | 3 | 7 | 5 | 1 | 6 | 3 | 2 | 6 | 8 | 7 | 9 | 8 | 1 | 2 |
| | | 9 | 4 | 5 | 8 | 0 | 1 | 9 | 9 | 8 | 0 | 8 | 0 | 4 | 6 | 6 | 5 | 0 | 9 | 0 | 8 | 4 | 6 | 0 | 0 | 9 |
| | | |
| FISCHER 344 RATS MALE | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 PPM |  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| Foreign Body | | 4 | |
| Inflammation, Suppurative | | 2 | |
| Inflammation, Chronic | | 2 | |
| | | 1 | |
| | | |
| Lung | | + | |
| Hemorrhage | | |
| Inflammation, Suppurative | | |
| Inflammation, Chronic | | |
| Alveolar Epithelium, Degeneration, Mucoid, Focal | | X | |
| Alveolar Epithelium, Hyperplasia | | |
| Alveolus, Emphysema | | |
| Alveolus, Infiltration Cellular, Histiocyte | | 1 | |
| Interstitial, Fibrosis | | 2 | |
| Mediastinum, Inflammation, Suppurative | | 4 | |
| | | |
| Nose | | + | |
| Foreign Body | | X | |
| Hemorrhage | | |
| Inflammation, Suppurative | | 2 | |
| Inflammation, Chronic | | 2 | |
| Glands, Dilatation | | 3 | |
| Goblet Cell, Hyperplasia | | 2 | |
| Nasolacrimal Duct, Inflammation, Suppurative | | 2 | |
| Olfactory Epithelium, Degeneration | | |
| Olfactory Epithelium, Degeneration, Hyaline | | |
| Olfactory Epithelium, Hyperplasia, Basal Cell | | 1 | |
| Olfactory Epithelium, Metaplasia | | 1 | |

males (cont...)

males
(cont...)

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | | | |
|--|--|---|--------------------|---|
| | | 7
2
9 | 6
8
4 | 7
0
5 | 6
1
8 | 7
3
0 | 6
8
1 | 7
2
9 | 7
2
9 | 6
9
8 | 7
3
0 | 7
0
8 | 7
3
0 | 6
7
4 | 6
5
6 | 7
1
6 | 5
6
5 | 7
3
0 | 7
2
9 | 5
6
0 | 6
8
8 | 6
7
4 | 5
9
6 | 6
8
0 | 2
1
0 | 7
2
9 | males
(cont...) | |
| FISCHER 344 RATS MALE | | 0 | 0 | | |
| ANIMAL ID | | 0 | 0 | | |
| 300 PPM | | 4 | 4 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | |
| Respiratory Epithelium, Degeneration,
Hyaline | | 1 | | |
| Pleura
Inflammation, Chronic | | | | |
| | | | | |
| | | | | |
| Trachea | | + | | |
| | | | | |
| SPECIAL SENSES SYSTEM | | | | |
| Eye | | + | | |
| Atrophy | | | | |
| Lens, Cataract | | 3 | | |
| Retina, Atrophy | | | | |
| Sclera, Metaplasia, Osseous | | 2 | | |
| | | | | |
| Harderian Gland | | + | | |
| Inflammation, Chronic | | | | |
| | | | | |
| Zymbal's Gland | | | | |
| Inflammation | | | | |
| | | | | |
| URINARY SYSTEM | | | | |
| Kidney | | + | | |
| Cyst | | | | |
| Nephropathy | | 1 2 2 1 3 3 3 2 2 3 1 3 1 1 4 3 4 3 | | |
| Bilateral, Pelvis, Dilatation | | | | |

| | | |
|--------------------------------------|--|-----------|
| DAY ON TEST | | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 6 | | |
| | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 |
| | | |
| FISCHER 344 RATS MALE

300 PPM | | ANIMAL ID | 0 | |
| | | 0 | 0 | |
| | | 4 | 4 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

ALIMENTARY SYSTEM

| | |
|----------------------------|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | 46 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | A | + | 44 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | A | + | 44 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Basophilic Focus | | | | | | | | | | | | | | X | | | | | | | | | | | | 3 |
| Clear Cell Focus | | | | | | | X | | | X | | | | | X | | | | | | | | | | | 5 |
| Degeneration, Cystic | | | | | | | 2 | | | | | | | | | | | 3 | | | | | | | | 3 2.3 |
| Hepatodiaphragmatic Nodule |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 4.0 |
| Necrosis | 3 | | 3 | | | | | | | | | | | | | | | | | 4 | | | | | | 3 3.3 |
| Thrombosis | | | | | | | | | | | | | | 3 | | | | | | | | | | | | 1 3.0 |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | 3 | | | | | | | | 4 2.5 |
| Bile Duct, Hyperplasia | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 4 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | | 4 | | | 2 | 2 | | 3 | 39 1.9 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 45

| | | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 6 | | | | | |
|---------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|---|---|---|---|-------|----------|--|---|-------|
| DAY ON TEST | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 | | | |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FISCHER 344 RATS MALE | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| 300 PPM | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
| Mesentery | | | | | | | | | | | | + | | | | | | | | | | | + | | | | | + | 8 |
| Necrosis | | | | | | | | | | | | 3 | | | | | | | | | | | 3 | | | | | 4 | 8 3.1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | 4 | 4 | 4 | 4 | 4 | 1 4.0 | | | | |
| Ulcer | | | | | | | | | | | | | | 4 | 4 | 4 | 4 | 4 | 4 | 2 4.0 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Erosion | | 2 | | | | | | | | | | | | | | | | | | | 3 | 3 | 3 | 3 | 2 2.5 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tooth | | | | | | | | | | | | | | | | | | | | + | | | | | 2 | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | + | | | | | 1 4.0 | | | | |
| Peridontal Tissue, Inflammation | | | | | | | | | | | | | | | | | | | | 4 | | | | | 1 4.0 | | | | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | |
|--|-----|---|---|----|--|--|--|--|--|--|---|-----|
| Blood Vessel |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | | | | | | | | | | | | |
| Pulmonary Artery, Infiltration Cellular, Polymorphonuclear |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | | | | | | | | | | | |
| Pulmonary Artery, Mineralization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 | | | | | | | | | | | |
| Heart | + | + | + | 50 | | | | | | | | |
| Cardiomyopathy | | | | | | | | | | | | | | | | | | | 2 | 2 | | | | | | | | | | | | 4 | 1.5 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
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| | | | |
|----------------------------------|-------------|----------|-------|
| FISCHER 344 RATS MALE
300 PPM | DAY ON TEST | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 5 | 6 | 7 | 7 | 6 |
| | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 4 | 4 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| Atrium, Thrombosis | | 4 | | | | | | | | 4 | | | | 4 | | | | 4 | | | | | | | | 5 3.8 |

ENDOCRINE SYSTEM

| | |
|------------------------------|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | 4 | | 4 | 3 | | | | 4 | | | | | | | | | | | | | | | | 2 | 2 | 12 2.8 |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Vacuolization Cytoplasmic | | 2 | | | 2 | | 2 | | | | | | | | | | 4 | | | | | | | | | 10 2.2 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | 2 | | 2 | 2 | | | | | 4 | | | | | | | 4 | | | 3 | | | | 9 2.7 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | 1 3.0 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Hyperplasia | | | | 2 | | | | | | 3 | 2 | | | | | | | | 1 | | 4 | | | | | 6 2.5 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Hyperplasia | | 1 | | | | | | | | | | | | | | 1 | 1 | | | | | | 2 | | | 9 1.8 |
| Follicular Cell, Hyperplasia | | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 1.0 |

GENERAL BODY SYSTEM

NONE

| | | |
|--------------------------------------|--|-----------|
| DAY ON TEST | | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 6 | | |
| | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 |
| | | |
| FISCHER 344 RATS MALE

300 PPM | | ANIMAL ID | 0 | |
| | | 0 | 0 | |
| | | 4 | 4 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

GENITAL SYSTEM

| | |
|--------------------------------------|--------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 2 4.0 |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 1 4.0 |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | 1 1.0 |
| Inflammation, Suppurative | 2 | | 2 | | 1 | 3 | | 1 | 1 | 2 | | 1 | 4 | 2 | | 1 | | 4 | 1 | 2 | 1 | 2 | 2 | | | 31 1.7 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Dilatation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 1 4.0 |
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Artery, Inflammation, Chronic Active |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Germinal Epithelium, Atrophy | | 4 | | | | | | | | | | | | | | | | 4 | 4 | | | | 4 | | | 8 4.0 |
| Interstitial Cell, Hyperplasia | 1 | | | | | | | | | 1 | | | | 1 | | | | 3 | 2 | | | | | 3 | | 10 1.9 |

HEMATOPOIETIC SYSTEM

| | |
|-------------|----|
| Bone Marrow | + | 50 |
|-------------|----|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
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A .. Autolysis precludes evaluation
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2) Mild 4) Marked

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| | | DAY ON TEST | | | |
|---|--|-------------|----|----------------|-------------------------|
| | | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 6 | | | | |
| | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 | | |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 | | |
| | | | | | |
| FISCHER 344 RATS MALE | | 0 | 0 | | |
| ANIMAL ID | | 0 | 0 | | |
| 300 PPM | | 4 | 4 | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS | |
| Lymph Node | | + + + 6 | | | |
| Lymph Node, Bronchial
Hyperplasia, Histiocytic
Infiltration Cellular, Histiocyte | | M | M | M | M | M | M | M | + | M | M | + | M | M | M | + | + | M | M | + | M | M | + | M | M | 14 | 1 3.0
1 3.0 | |
| Lymph Node, Mandibular | | M | M | M | M | M | M | M | M | M | M | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 1 | |
| Lymph Node, Mediastinal
Angiectasis
Infiltration Cellular, Histiocyte
Pigmentation | | M | M | + | + | + | + | M | M | M | M | M | + | + | M | + | + | + | M | + | M | + | + | M | + | M | 20 | 1 4.0
1 3.0
1 3.0 |
| Lymph Node, Mesenteric | | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Spleen
Accessory Spleen
Fibrosis
Necrosis | | + | + | 49 | 1 4.0
1 3.0
5 4.0 |
| Thymus
Inflammation
Thrombosis | | + | + | 47 | 1 4.0
1 4.0 |

INTEGUMENTARY SYSTEM

| | |
|---------------|-------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Galactoceles | | | | | | 4 | 4 | | | | | | 4 | | | | | | | | | | | | | 3 4.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | |
|----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
300 PPM | DAY ON TEST | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 5 | 6 | 7 | 7 | 6 |
| | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 4 | 4 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | | |
|--|----|-------|
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperkeratosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Inflammation, Chronic | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | 1 4.0 |
| Ulcer | | | | | | | | | 3 | | | | | | | | | | 3 | | | | | | | | 2 3.0 |
| Subcutaneous Tissue, Metaplasia, Osseous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |

MUSCULOSKELETAL SYSTEM

| | | |
|-------------------|----|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Maxilla, Fracture |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Skeletal Muscle |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |

NERVOUS SYSTEM

| | | |
|----------------------------|----|-------|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Compression | | | | | | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8 2.6 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 4 | | | | | | | | 4 3.0 |
| Choroid Plexus, Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Spinal Cord |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | + |  |  |  |  | 1 |

RESPIRATORY SYSTEM

| | | |
|--------|----|--|
| Larynx | + | 50 | |
|--------|----|--|

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 5 | 6 | 7 | 7 | 6 | | |
|--|--|----|----------|
| DAY ON TEST | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 | |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 | |
| FISCHER 344 RATS MALE | | 0 | | |
| ANIMAL ID | | 4 | | |
| 300 PPM | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |
| Foreign Body | | | | | | | | | | | 4 | | | | | | | | | | | | | | | 2 | 4.0 |
| Inflammation, Suppurative | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | 4 | 1.5 |
| Inflammation, Chronic | | | | 1 | | 2 | 1 | | | | | | | | | 1 | | | | | | | | | | 6 | 1.3 |
| Lung |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage | | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1 | 2.0 |
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | 1 | 4.0 |
| Inflammation, Chronic | | | | | | | | | | 1 | 2 | | | | | | | | | | | | | | 2 | 3 | 1.7 |
| Alveolar Epithelium, Degeneration, Mucoid, Focal |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | |
| Alveolar Epithelium, Hyperplasia | | | | | | | 3 | 4 | 4 | | | | | | | | 2 | | | 3 | | | 4 | | | 6 | 3.3 |
| Alveolus, Emphysema |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | 1 | 4.0 |
| Alveolus, Infiltration Cellular, Histiocyte | | | | | | 3 | | 2 | 2 | | | | | | | | 3 | | 4 | | | | | | | 10 | 2.0 |
| Interstitialium, Fibrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | | 2 | 2.5 |
| Mediastinum, Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Nose |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body | | | | | | | | | | | | | | | | | X | | | | | | | | | 3 | |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2.0 |
| Inflammation, Suppurative | | | | | | | | 1 | | | | | | | | | 2 | | | | | 4 | | 2 | | 7 | 2.4 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 2.0 |
| Glands, Dilatation | | | | | | 1 | | | 1 | | 2 | | | | | | | | 2 | | | | | | | 6 | 2.0 |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | | | | | | 2 | | | | | | | | 2 | 5 | 2.4 |
| Nasolacrimal Duct, Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2.0 |
| Olfactory Epithelium, Degeneration | | | | | | | | | 1 | | | | | | | | | | | | | | 2 | | | 3 | 1.7 |
| Olfactory Epithelium, Degeneration, Hyaline | | | | | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2.0 |
| Olfactory Epithelium, Hyperplasia, Basal Cell | | | | | 2 | | | | | 1 | | 1 | 1 | 1 | | 1 | | 1 | 1 | 1 | 1 | 2 | | 1 | 2 | 18 | 1.2 |
| Olfactory Epithelium, Metaplasia | | | | | | | 1 | 2 | | | 2 | | | | | | | | | | | | | | | 3 | 1.7 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | |
|----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
300 PPM | DAY ON TEST | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 5 | 6 | 7 | 7 | 6 |
| | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 4 | 4 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | | |
|--|---|-------|
| Respiratory Epithelium, Degeneration,
Hyaline | 2 | 2 1.5 |
| Pleura |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 |
| Inflammation, Chronic | + +
2 2 | 6 2.0 |
| Trachea | + + + + + + + + + + + + + + + + + + + + + + + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 50 |

SPECIAL SENSES SYSTEM

| | | |
|-----------------------------|---|--------|
| Eye | + + + + + + + + + + + + + + + + + + + + + + + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 50 |
| Atrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Lens, Cataract |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 3.4 |
| Retina, Atrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Sclera, Metaplasia, Osseous | 2 2 1 2 2 2 2 3 2 2 2 2 1 1 2 2 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 32 1.9 |
| Harderian Gland | + + + + + + + + + + + + + + + + + + + + + + + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 50 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 2.0 |
| Zymbal's Gland |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Inflammation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |

URINARY SYSTEM

| | | |
|-------------------------------|---|--------|
| Kidney | + + + + + + + + + + + + + + + + + + + + + + + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 50 |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Nephropathy | 2 2 1 2 2 3 3 4 3 1 1 2 1 2 3 2 X X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 46 2.4 |
| Bilateral, Pelvis, Dilatation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 5 | 6 | 7 | 7 | 6 | | |
|---|-----------|-------|----|----------|
| DAY ON TEST | | 5 | 3 | 5 | 3 | 2 | 3 | 2 | 2 | 3 | 7 | 2 | 2 | 5 | 2 | 7 | 2 | 8 | 3 | 1 | 4 | 6 | 1 | 3 | 3 | 1 | |
| | | 8 | 0 | 2 | 0 | 9 | 0 | 9 | 9 | 0 | 4 | 9 | 9 | 7 | 9 | 4 | 9 | 8 | 0 | 6 | 9 | 3 | 8 | 0 | 0 | 9 | |
| | | | | |
| FISCHER 344 RATS MALE

300 PPM | ANIMAL ID | 0 | 0 | | |
| | | 0 | 0 | | |
| | | 4 | 4 | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |
| Cortex, Renal Tubule, Accumulation, Hyaline Droplet | | 1 4.0 | | |
| Papilla, Mineralization | | 1 | | | | | 1 | | | | | 1 | | | | | | | | | | 1 | | | | | 10 1.0 |
| Pelvis, Transitional Epithelium, Hyperplasia | | 1 2.0 | | |
| Pelvis, Dilatation | | 1 2.0 | | |
| Pelvis, Hemorrhage | | 1 3.0 | | |
| | | | | |
| Urinary Bladder |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Calculus Micro Observation Only | | 1 3.0 | | |
| Cyst | | 1 4.0 | | |
| Hemorrhage | | 2 4.0 | | |
| Necrosis | | 2 4.0 | | |
| Transitional Epithelium, Hyperplasia | | 1 2.0 | | |

| | | |
|---------------------------------------|--|--------------------|
| DAY ON TEST | | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 5 | 6 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 7 | 5 | 7 | | |
| | | 3 | 8 | 2 | 3 | 0 | 3 | 8 | 6 | 5 | 3 | 6 | 0 | 3 | 0 | 2 | 2 | 2 | 6 | 3 | 6 | 1 | 6 | 0 | 5 | 0 | |
| | | 0 | 6 | 2 | 0 | 9 | 0 | 8 | 2 | 3 | 0 | 2 | 1 | 0 | 2 | 9 | 9 | 9 | 9 | 0 | 5 | 4 | 8 | 2 | 8 | 9 | |
| FISCHER 344 RATS MALE

1000 PPM | | |
| | | 0 | | |
| | | 0 | | |
| | | 6 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | males
(cont...) |

ALIMENTARY SYSTEM

| |
|----------------------------|
| Esophagus | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Liver | + |
| Angiectasis | 4 | | | | | 3 | | | | | | | | | | | | | | | | | | 4 |
| Basophilic Focus |
| Clear Cell Focus | | | | | | X | | | | | | | | | | | | | X | | | | | |
| Degeneration, Cystic |
| Hemorrhage | | | | | | | | 4 | | | | | | | | | | | | | | | | |
| Hepatodiaphragmatic Nodule | 4 | | | | | | | | | | 4 | | 4 | | | | | | | 4 | | 4 | | |
| Necrosis | | | | | | | | | | | | | | | 3 | | | | | | | | | |
| Thrombosis |
| Bile Duct, Hyperplasia | | 1 | | 2 | | | 3 | | | | 2 | | 2 | | 2 | 1 | | | 2 | 2 | | 2 | 3 | 3 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 x .. Lesion present
 l .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

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| | | |
|---------------------------------------|--|-----------------|
| DAY ON TEST | | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 5 | 6 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 7 | 5 | 7 | |
| | | 3 | 8 | 2 | 3 | 0 | 3 | 8 | 6 | 5 | 3 | 6 | 0 | 3 | 0 | 2 | 2 | 2 | 6 | 3 | 6 | 1 | 6 | 0 | 5 | 0 |
| | | 0 | 6 | 2 | 0 | 9 | 0 | 8 | 2 | 3 | 0 | 2 | 1 | 0 | 2 | 9 | 9 | 9 | 9 | 0 | 5 | 4 | 8 | 2 | 8 | 9 |
| | | |
| FISCHER 344 RATS MALE

1000 PPM | | 0 | 0 | |
| | | 0 | 0 | |
| | | 6 | 6 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | males (cont...) | |

| | |
|--|--|
| Mesentery
Necrosis | |
| Oral Mucosa
Gingival, Hyperplasia, Squamous, Focal |
| Pancreas | |
| Salivary Glands | |
| Stomach, Forestomach
Hyperplasia, Squamous
Inflammation, Suppurative | |
| Stomach, Glandular
Erosion | |
| Tongue
Epithelium, Hyperplasia | |

CARDIOVASCULAR SYSTEM

| |
|--------------------|
| Heart |
| Cardiomyopathy |
| Atrium, Necrosis |
| Atrium, Thrombosis | |

| | | | |
|-----------------------------------|--|-------------|--------------------|
| FISCHER 344 RATS MALE
1000 PPM | | DAY ON TEST | 7
3
0 | 5
8
6 | 7
2
2 | 7
3
0 | 7
0
9 | 7
3
0 | 6
8
8 | 5
6
2 | 6
5
3 | 7
3
0 | 5
6
2 | 7
0
1 | 7
3
0 | 7
2
2 | 7
2
9 | 7
2
9 | 6
6
9 | 7
3
0 | 5
6
5 | 7
1
4 | 6
6
8 | 7
0
2 | 5
5
8 | 7
0
9 | males
(cont...) |
| | | | |
| | | ANIMAL ID | 0
0
6
0
1 | 0
0
6
0
2 | 0
0
6
0
3 | 0
0
6
0
4 | 0
0
6
0
5 | 0
0
6
0
6 | 0
0
6
0
7 | 0
0
6
0
8 | 0
0
6
0
9 | 0
0
6
1
0 | 0
0
6
1
1 | 0
0
6
1
2 | 0
0
6
1
3 | 0
0
6
1
4 | 0
0
6
1
5 | 0
0
6
1
6 | 0
0
6
1
7 | 0
0
6
1
8 | 0
0
6
1
9 | 0
0
6
2
0 | 0
0
6
2
1 | 0
0
6
2
2 | 0
0
6
2
3 | 0
0
6
2
4 | |

ENDOCRINE SYSTEM

| |
|------------------------------|
| Adrenal Cortex | + |
| Hyperplasia | | 3 | | | 3 | | | 2 | | | | | | | | | 2 | | | | | | | | 3 |
| Vacuolization Cytoplasmic | | 2 | | | | | | | | | | | | | | | 2 | | | | | | | | |
| Adrenal Medulla | + |
| Hyperplasia | | | 4 | | | | | | | | | | 4 | 2 | 4 | | 4 | 3 | | | | | | | 4 |
| Islets, Pancreatic | + |
| Parathyroid Gland | + | + | + | + | + | + | + | + | M | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + |
| Pituitary Gland | + |
| Cyst |
| Hyperplasia | | 4 | 4 | | 3 | | | | | 2 | | 3 | | | 4 | | 3 | | | | | 2 | | | 4 |
| Thyroid Gland | + |
| Cyst | 3 | |
| C-cell, Hyperplasia | | | | | 1 | | | | | 1 | | | 1 | | | | | | | | | | | | |
| Follicle, Cyst |
| Follicular Cell, Hyperplasia | | | | | | | 3 | | | | | | | | | | | | | | | 1 | | | |

GENERAL BODY SYSTEM

| | |
|------------|---|
| Peritoneum | + |
|------------|---|

| | | | |
|-----------------------------------|--------------------|-------------|-----------------------|
| FISCHER 344 RATS MALE
1000 PPM | | DAY ON TEST | 7
3
0 | 5
8
6 | 7
2
2 | 7
3
0 | 7
0
9 | 6
8
8 | 5
6
2 | 6
5
3 | 7
3
0 | 5
6
2 | 7
0
1 | 7
3
0 | 7
0
2 | 7
2
9 | 7
2
9 | 7
2
9 | 6
6
9 | 7
3
0 | 5
6
5 | 7
1
4 | 6
6
8 | 7
0
2 | 5
5
8 | 7
0
9 |
| | | | |
| | | ANIMAL ID | 0
0
6
0
1 | 0
0
6
0
2 | 0
0
6
0
3 | 0
0
6
0
4 | 0
0
6
0
5 | 0
0
6
0
6 | 0
0
6
0
7 | 0
0
6
0
8 | 0
0
6
0
9 | 0
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6
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0
6
1
1 | 0
0
6
2
0 | 0
0
6
2
1 | 0
0
6
2
2 | 0
0
6
2
3 | 0
0
6
2
4 | 0
0
6
2
5 |
| | males
(cont...) | | |

males
(cont...)

GENITAL SYSTEM

| | |
|--|---|
| Epididymis | + |
| Preputial Gland
Cyst
Hyperplasia | + |
| Prostate
Hyperplasia
Inflammation, Suppurative | + |
| | 1 | | 1 | 1 | 2 | | 1 | 1 | 4 | 1 | 1 | 1 | | 1 | | | | 2 | | 2 | | | | | 1 |
| Seminal Vesicle | + |
| Testes
Germinal Epithelium, Atrophy
Interstitial Cell, Hyperplasia | + |
| | | | | | | 3 | | | | 3 | | | | 4 | | | | | | | | | | 4 | 3 |
| | | | | | 1 | | | | 2 | 2 | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | |
|---|---|
| Bone Marrow | + | |
| Lymph Node
Deep Cervical, Hemorrhage | | | | | | | | + | | | | | | | | | + | | + | + | | | + | + | |
| | | | | | | | | | | | | | | | | | | | 3 | | | | | | |
| Lymph Node, Bronchial | M | M | + | + | + | + | M | + | + | + | M | M | + | M | + | M | M | + | + | M | M | M | M | M | M |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | |
|--|-------------|-----------------------|
| | DAY ON TEST | 7
3
0 | 5
8
6 | 7
2
2 | 7
3
0 | 7
0
9 | 7
3
0 | 6
8
8 | 5
6
2 | 6
5
3 | 7
3
0 | 5
6
2 | 7
0
1 | 7
3
0 | 7
2
2 | 7
2
2 | 7
2
2 | 6
6
9 | 7
3
0 | 5
6
5 | 7
1
4 | 6
6
8 | 7
0
2 | 5
5
8 | 7
5
0 | 7
0
9 |
| FISCHER 344 RATS MALE | ANIMAL ID | 0
0
6
0
1 | 0
0
6
0
2 | 0
0
6
0
3 | 0
0
6
0
4 | 0
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6
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5 | 0
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6 | 0
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7 | 0
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0
8 | 0
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6
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9 | 0
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6
1
0 | 0
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1 | 0
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2 | 0
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4 | 0
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5 | 0
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7 | 0
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6
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8 | 0
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9 | 0
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2
1 | 0
0
6
2
2 | 0
0
6
2
3 | 0
0
6
2
4 | 0
0
6
2
5 |
| 1000 PPM | | | males
(cont...) |
| Lymph Node, Mandibular | | M |
| Lymph Node, Mediastinal
Hyperplasia, Lymphoid
Pigmentation | | + | M | M | M | M | M | + | + | M | M | M | M | M | M | M | M | M | M | M | M | + | M | + | + | |
| Lymph Node, Mesenteric | | + | |
| Spleen | | + | |
| Accessory Spleen | | |
| Fibrosis | | |
| Hemorrhage | | | | | | | | 4 | | | | | | | | | | | | | | | | 4 | | |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | 4 | | | | | | | | | | |
| Necrosis | | 3 | | | | | 4 | 4 | | | | | 4 | | | | | 4 | | | | | | | 4 | |
| Thymus | | + | + | + | M | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | |

INTEGUMENTARY SYSTEM

| |
|----------------|
| Mammary Gland | + |
| Galactoceles | 4 | |
| Skin | + |
| Hyperkeratosis | |
| Ulcer |

MUSCULOSKELETAL SYSTEM

| |
|--|
| |
|--|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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| | | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 5 | 6 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 7 | 5 | 7 | | |
|---|--|--------------------|
| DAY ON TEST | | 3 | 8 | 2 | 3 | 0 | 3 | 8 | 6 | 5 | 3 | 6 | 0 | 3 | 0 | 2 | 2 | 2 | 6 | 3 | 6 | 1 | 6 | 0 | 5 | 0 | |
| | | 0 | 6 | 2 | 0 | 9 | 0 | 8 | 2 | 3 | 0 | 2 | 1 | 0 | 2 | 9 | 9 | 9 | 9 | 0 | 5 | 4 | 8 | 2 | 8 | 9 | |
| FISCHER 344 RATS MALE | | 0 | | |
| ANIMAL ID | | 0 | | |
| 1000 PPM | | 6 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | males
(cont...) |
| Bone | | + | |
| <hr/> | | |
| NERVOUS SYSTEM | | |
| <hr/> | | |
| Brain | | + | |
| Compression | | | | | | | | | | 4 | | | | | | | | | | 1 | | | | | | | |
| Gliosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | | | | |
| Hemorrhage | | | | | | | | | | | | | 4 | | | | | | | | | | | | | 4 | |
| Cerebrum, Demyelination, Focal | | |
| Meninges, Hemorrhage | | |
| <hr/> | | |
| RESPIRATORY SYSTEM | | |
| <hr/> | | |
| Larynx | | + | |
| Foreign Body | | | | | | | | | | | | | | | 4 | | | | | 4 | | | | | | 4 | |
| Inflammation, Suppurative | | | | | | | | 2 | | | | | | | | | | 2 | | | | | | | | | |
| Inflammation, Chronic | | | | | 2 | | | | 1 | | | | | 2 | 2 | | | | | | | | | | | 3 | |
| Epiglottis, Hyperplasia | | |
| <hr/> | | |
| Lung | | + | |
| Hemorrhage | | | | 2 | | | | 2 | | | | | 3 | | | | | | | | | | | 3 | | | |
| Inflammation, Chronic | | |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| Alveolus, Infiltration Cellular, Histiocyte | | 1 | | | | | | | | | | | | | | | | | | 2 | | | | | | | |
| Interstitial, Fibrosis | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| <hr/> | | |
| Nose | | + | |
| Foreign Body | | | | | | | | | | | | | | | | | | | X | | | | | | | X | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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| | | DAY ON TEST | | males
(cont...) |
|---|--|-----------------------|--------------------|
| | | 7
3
0 | 5
8
6 | 7
2
2 | 7
3
0 | 7
0
9 | 7
3
0 | 6
8
8 | 5
6
2 | 6
5
3 | 7
3
0 | 5
6
2 | 7
0
1 | 7
3
0 | 7
0
2 | 7
2
9 | 7
2
9 | 6
6
9 | 7
3
0 | 5
6
5 | 7
1
4 | 6
6
8 | 7
0
2 | 5
5
8 | 7
0
9 | | |
| | | | |
| FISCHER 344 RATS MALE | | 0
0
6
0
1 | 0
0
6
0
2 | 0
0
6
0
3 | 0
0
6
0
4 | 0
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6 | 0
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6
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7 | 0
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6
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8 | 0
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9 | 0
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2 | 0
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5 | 0
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6 | 0
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7 | 0
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2 | 0
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6
2
3 | 0
0
6
2
4 | 0
0
6
2
5 | |
| 1000 PPM | | ANIMAL ID | |
| Inflammation, Suppurative | | 3 | | | | | | | | | | 2 | | | | | | | | | | 2 | 2 | | | 3 | |
| Goblet Cell, Hyperplasia | | 1 | | | | | | | | | | 2 | | | | | | | | | | 3 | | | | | |
| Nerve, Olfactory Epithelium, Degeneration | | 2 | | | | | | | | | | 1 | | | | | | | | | | 1 | 1 | | | | |
| Olfactory Epithelium, Degeneration | | 1 | 1 | | | | | | | | | | | | | 1 | | | 1 | | | | 1 | | | | |
| Olfactory Epithelium, Hyperplasia, Basal Cell | | 2 | 2 | | 1 | 2 | 2 | | 2 | 2 | | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | | |
| Olfactory Epithelium, Metaplasia | | 1 | | | | | | | | | | | 3 | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | | 1 | |
| Respiratory Epithelium, Metaplasia, Squamous | | | 3 | | | | | |
| | | | |
| Pleura | | + | | | | | | | | | | | | | | | | | | | | + | | | | | |
| Inflammation, Chronic | | 1 | | | | | | | | | | | | | | | | | | | | 1 | | | | | |
| | | | |
| Trachea | | + | |
| | | | |
| SPECIAL SENSES SYSTEM | | | |
| | | | |
| Eye | | + | |
| Atrophy | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | |
| Cornea, Fibrosis | | | |
| Cornea, Hyperplasia, Squamous | | | |
| Lens, Cataract | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | |
| Sclera, Metaplasia, Osseous | | 3 | 3 | | | 1 | | 3 | | 2 | 2 | | | | 2 | 3 | 3 | 2 | 3 | | 3 | 2 | | 1 | 2 | 3 | |
| | | | |
| Harderian Gland | | + | |
| | | | |
| Zymbal's Gland | | | | | | | | | | | | + | | | | | | | | | | + | | | | | |
| | | | |

SPECIAL SENSES SYSTEM

| |
|-----------------|
| Eye | + | |
| | | | | | | | | | | | | 4 | | | | | | | | | | | | | |
| |
| | | | | | | | | | | | | 4 | | | | | | | | | | | | | |
| | | | | | | | | | | | | 2 | 3 | 3 | 2 | | | 3 | 3 | | | 2 | 1 | 2 | 3 |
| |
| |
| Harderian Gland | + | |
| |
| Zymbal's Gland | | | | | | | | | | | | + | + | | | | | | | | | | | | |

| | | |
|---------------------------------------|--|-----------------|
| DAY ON TEST | | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 5 | 6 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 7 | 5 | 7 | |
| | | 3 | 8 | 2 | 3 | 0 | 3 | 8 | 6 | 5 | 3 | 6 | 0 | 3 | 0 | 2 | 2 | 2 | 6 | 3 | 6 | 1 | 6 | 0 | 5 | 0 |
| | | 0 | 6 | 2 | 0 | 9 | 0 | 8 | 2 | 3 | 0 | 2 | 1 | 0 | 2 | 9 | 9 | 9 | 9 | 0 | 5 | 4 | 8 | 2 | 8 | 9 |
| | | |
| FISCHER 344 RATS MALE

1000 PPM | | 0 | 0 | |
| | | 0 | 0 | |
| | | 6 | 6 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | males (cont...) | |

URINARY SYSTEM

| | |
|---|---|
| Kidney | + | |
| Infarct | | | | | | | | | | | | | | | X | | | | | | | X | | | |
| Nephropathy | 4 | 2 | 2 | 3 | 3 | 4 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 3 | 1 | 2 |
| Thrombosis | |
| Bilateral, Infarct |
| Bilateral, Infarct, Multiple |
| Cortex, Renal Tubule, Accumulation, Hyaline Droplet | | | 3 | |
| Papilla, Mineralization | 2 | | 1 | 1 | | 3 | | 2 | 1 | 2 | 1 | | 1 | | 1 | | 2 | | 1 | 3 | 1 | 1 | 1 | | 3 |
| Pelvis, Transitional Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| Urinary Bladder | + |
| Calculus Micro Observation Only | | X | |
| Hemorrhage | |
| Transitional Epithelium, Hyperplasia | | | | | | 1 | | | | | | | | | | | | | | | | | | | |

| | | |
|-----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
1000 PPM | DAY ON TEST | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 5 |
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 6 | 6 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | * TOTALS | | 0 |

ALIMENTARY SYSTEM

| | |
|----------------------------|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 47 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 48 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 48 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 47 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 47 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 47 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | | | | 4 | | | | | | | | | | | | | | | 4 3.8 |
| Basophilic Focus | | | | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Clear Cell Focus |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | | | | 3 |
| Degeneration, Cystic | | | | | | | | | | | | | | | 3 | | | | | | | | | | 1 3.0 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Hepatodiaphragmatic Nodule | 4 | 4 | | | | | | | | | | | | | | | 4 | 4 | | | | 4 | | | 10 4.0 |
| Necrosis | | | | | | 4 | | | | | | | | | | | | | | | | 4 | | 2 | 4 3.3 |
| Thrombosis | | | | | | | | | | 4 | | | | | | | | | | | | | | | 1 4.0 |
| Bile Duct, Hyperplasia | 4 | | 2 | 1 | | 4 | | 2 | 2 | 3 | 1 | 2 | 2 | | 1 | 3 | | | 1 | 2 | 1 | 1 | 3 | 3 | 30 2.1 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | |
|--|-------------|----------|
| FISCHER 344 RATS MALE
1000 PPM | DAY ON TEST | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 5 |
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 | |
|  |  | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| Mesentery | | |
| Necrosis | | |
| | | |
| Oral Mucosa | | |
| Gingival, Hyperplasia, Squamous, Focal | | |
| | | |
| Pancreas | | |
| | | |
| Salivary Glands | | |
| | | |
| Stomach, Forestomach | | |
| Hyperplasia, Squamous | | |
| Inflammation, Suppurative | | |
| | | |
| Stomach, Glandular | | |
| Erosion | | |
| | | |
| Tongue | | |
| Epithelium, Hyperplasia | | |
| | | |
| CARDIOVASCULAR SYSTEM | | |
| Heart | | |
| Cardiomyopathy | | |
| Atrium, Necrosis | | |
| Atrium, Thrombosis | | |
| | | |

| | | |
|-----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
1000 PPM | DAY ON TEST | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 5 |
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 6 | 6 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

ENDOCRINE SYSTEM

| | | | |
|------------------------------|----|----|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | 1 | | | | | | | 4 | | | 3 | | | 4 | | | | | | | | | | | 9 | 2.8 |
| Vacuolization Cytoplasmic | | | | 2 | | | | | | | | | | | | | | | | 4 | | 4 | | | | 5 | 2.8 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | 3 | 3 | | | | 3 | | | | 2 | | | 3 | | 3 | | | | | 4 | | | | | | 14 | 3.3 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | I | + | 49 | | |
| Cyst | | | | | | | | | | | | | | 4 | | | | | | | | | | | | 1 | 4.0 |
| Hyperplasia | | | 3 | | | | | | 3 | | | | | | | 3 | | | | | | | | 3 | 1 | 14 | 3.0 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |
| C-cell, Hyperplasia | | | | 3 | | | | | 1 | | | | | | | | | | 4 | | | | | | | 6 | 1.8 |
| Follicle, Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 1 | 3.0 |
| Follicular Cell, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 2.0 |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|---|--|--|--|--|--|--|--|--|--|--|---|
| Peritoneum | | | | | | | | | | | | | + | | | + | | | | | | | | | | | 3 |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|---|--|--|--|--|--|--|--|--|--|--|---|

| | | |
|-----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
1000 PPM | DAY ON TEST | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 5 |
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 6 | 6 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | * TOTALS | | 0 |

GENITAL SYSTEM

| | |
|--------------------------------|--------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst | | | | | | | | | | | | | | | | | | 4 | | | | | | | 1 4.0 |
| Hyperplasia | | | | | | | | | | | | | | | | | | 3 | | | | | | | 2 3.5 |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 1.0 |
| Inflammation, Suppurative | 2 | | | | | 3 | | 2 | | | | | 1 | | | | 2 | 1 | | 1 | 1 | 1 | | 1 | 24 1.5 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Germinal Epithelium, Atrophy | | | | | | | | | | | | | | | 3 | | | | | | | | | | 6 3.3 |
| Interstitial Cell, Hyperplasia | | | 2 | | 1 | | | | | | | 3 | | | | | 2 | | | | | | | | 7 1.9 |

HEMATOPOIETIC SYSTEM

| | |
|---------------------------|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | | | + | + | + | + | + | | | | | | | | 12 |
| Deep Cervical, Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Lymph Node, Bronchial | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | + | M | + | + | M | 15 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | |
|-----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
1000 PPM | DAY ON TEST | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 5 |
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 6 | 6 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | |
|--|-------|
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 0 |
| Lymph Node, Mediastinal
Hyperplasia, Lymphoid
Pigmentation | M | M | + | M | M | M | M | + | M | M | M | + | + | + | M | + | M | + | + | M | + | + | + | + | M | 18 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Accessory Spleen | | | | | | | | | | | | | | | X | | | | | | | | | | | 1 |
| Fibrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 |
| Hyperplasia, Lymphoid |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Necrosis | | | | | | | | | | | 4 | | | | | | 4 | | | | | | | | | 8 3.9 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | 47 |

INTEGUMENTARY SYSTEM

| | |
|----------------|-------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Galactoceles | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperkeratosis | | | | | | | | | | | 4 | | | | | | | | | | | | | | | 2 4.0 |
| Ulcer | | | 4 | | | | | | | | | | | | | | | | | | | 3 | | 4 | | 3 3.7 |

MUSCULOSKELETAL SYSTEM

| | | |
|-----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
1000 PPM | DAY ON TEST | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 5 |
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 6 | 6 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

Bone

+ 50

NERVOUS SYSTEM

| | | |
|--------------------------------|----|-------|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Compression |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 2.5 |
| Gliosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 |
| Cerebrum, Demyelination, Focal | | | | | | | 4 | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Meninges, Hemorrhage | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | 1 1.0 |

RESPIRATORY SYSTEM

| | | |
|--|----|--------|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body | | | | | 4 | | | | | | | | | | | | | | | | | | | 4 | | | 5 4.0 |
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 2.0 |
| Inflammation, Chronic | | | | | 2 | | | | | 1 | | | | | 2 | | | | | | | | 3 | 3 | | | 10 2.1 |
| Epiglottis, Hyperplasia | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 1.0 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage | | | | | | | 4 | | | | | | | | | | | 3 | | 3 | | | | | | | 7 2.9 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | 3 | | | | | 2 2.0 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | 3 | | | | | | | | | | 4 | | | | | 3 3.0 |
| Alveolus, Infiltration Cellular, Histocyte | | | | | 1 | | | | | | 3 | | | | | | | | | | | | | | | | 4 1.8 |
| Interstitial, Fibrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 49 | |
| Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 67

| DAY ON TEST | | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 5 |
|--|--|---|
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 | 9 |
| | | |
| FISCHER 344 RATS MALE
1000 PPM
ANIMAL ID | | 0 |
| | | 0 |
| | | 6 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| * TOTALS | | |

| | | | | | | | | |
|---|----|-----|---|----|-----|-----|---|-----|
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 | 2.4 | | | | | | |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | | 2 | | | | | | | | | | | | | 3 | 5 | 2.2 |
| Nerve, Olfactory Epithelium, Degeneration |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2.0 | | | | | | |
| Olfactory Epithelium, Degeneration | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | 16 | 1.0 | | | | | | |
| Olfactory Epithelium, Hyperplasia, Basal Cell | 2 | 2 | 2 | 2 | 2 | 2 | | | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 43 | 1.8 | | | |
| Olfactory Epithelium, Metaplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 2.0 | | | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | 1 | | | | | | | | | | | | | | | | 2 | 1.0 | | | | | | |
| Respiratory Epithelium, Metaplasia, Squamous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 | | | | | | |
| | | | | | | | | |
| Pleura | | | | | + | | | | | | | | | | | | | | | | + | + | | | 5 | | | |
| Inflammation, Chronic | | | | | 1 | | | | | | | | | | | | | | | | 2 | 3 | | | 5 | 1.6 | | |
| | | | | | | | | |
| Trachea | + | + | + | + | 50 | | | |

SPECIAL SENSES SYSTEM

| | | | | |
|-------------------------------|----|----|-----|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | 49 | | | |
| Atrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Cornea, Fibrosis | | | | | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 | |
| Cornea, Hyperplasia, Squamous | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | 1 | 2.0 |
| Lens, Cataract |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Sclera, Metaplasia, Osseous | 3 | | | | | 2 | | | 1 | 2 | | | 3 | 2 | | | 1 | | | 2 | | | | | 2 | 25 | 2.2 | |
| | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| | | | | |
| Zymbal's Gland |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | |

| | | |
|-----------------------------------|-------------|----------|
| FISCHER 344 RATS MALE
1000 PPM | DAY ON TEST | 7 | 6 | 5 | 7 | 4 | 6 | 2 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 5 |
| | | 2 | 5 | 1 | 3 | 0 | 8 | 0 | 3 | 2 | 3 | 2 | 4 | 3 | 8 | 6 | 3 | 2 | 6 | 0 | 2 | 3 | 3 | 2 | 2 | 7 |
| | | 9 | 6 | 9 | 0 | 1 | 4 | 0 | 0 | 9 | 0 | 9 | 6 | 0 | 8 | 0 | 0 | 8 | 7 | 0 | 9 | 0 | 0 | 9 | 9 | 9 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 6 | 6 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

URINARY SYSTEM

| | |
|---|--------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Infarct | | X | X | | | X | | | | | | | | | | | | | | | | | | | | 5 |
| Nephropathy | 3 | 2 | | 3 | | 3 | 1 | 4 | 3 | 2 | 2 | | 2 | 3 | 1 | 2 | 2 | | | 2 | 3 | 4 | 2 | 3 | 2 | 45 2.4 |
| Thrombosis | | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Bilateral, Infarct |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | | 1 |
| Bilateral, Infarct, Multiple | | | | | | | | | | | | | | | | X | | | | | | | | | | 1 |
| Cortex, Renal Tubule, Accumulation, Hyaline Droplet |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Papilla, Mineralization | 2 | | 1 | | | 1 | | 1 | | 2 | 2 | 1 | 1 | 1 | 1 | 2 | | | 1 | 1 | 1 | 1 | | 1 | | 33 1.4 |
| Pelvis, Transitional Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Calculus Micro Observation Only |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 4 | | | | | | | 1 4.0 |
| Transitional Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | 3 | | | | | | | 2 2.0 |

*** END OF MALE DATA ***

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | DAY ON TEST | 6 | 7 | 7 | 6 | 5 | 7 | 7 | 6 | 0 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 4 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 |
|------------------------------------|-------------|-------------------|
| | | 1 | 3 | 3 | 8 | 6 | 3 | 3 | 8 | 1 | 2 | 3 | 3 | 6 | 3 | 3 | 2 | 6 | 3 | 3 | 3 | 3 | 7 | 3 | 1 | 3 |
| | | 8 | 2 | 1 | 8 | 8 | 1 | 2 | 7 | 6 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 9 | 1 | 8 | 2 |
| FISCHER 344 RATS FEMALE
CONTROL | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | females (cont...) | |

ALIMENTARY SYSTEM

| |
|----------------------------|
| Esophagus | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | A | + | + | + | + | + | A | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | A | + | + | + | + | + | A | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | A | + | + | + | + | + | A | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | A | + | + | + | + | + | A | + | + | + |
| Liver | + |
| Angiectasis | | 3 | | | | | | | | | | | | | | 4 | | | 3 | | | | | | |
| Basophilic Focus | | | | | X | X | | X | | | | X | | X | | X | | X | X | X | X | X | X | | X |
| Basophilic Focus, Multiple | | | X | | | | X | | | | | | | | | | | X | | | | | | | |
| Clear Cell Focus | | | | | | | | X | | | | | | X | | | | | | | | | | X | |
| Clear Cell Focus, Multiple | | | | | | X | | | | | | | | | | | | | | X | | X | | | |
| Eosinophilic Focus | | | X | |
| Hepatodiaphragmatic Nodule |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | |
| Necrosis |
| Thrombosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | |
| Vacuolization Cytoplasmic | | 4 | | | 1 | | | | | | | | | 2 | | | | | | 2 | | | | | |
| Bile Duct, Bile Stasis |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: RATS/F 344

Pathologist: RENNE, R.

Lab: BNW

| | | |
|------------------------------------|-----------|-------------------|
| | | DAY ON TEST |
| | | 6 | 7 | 7 | 6 | 5 | 7 | 7 | 6 | 0 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 4 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 |
| | | 1 | 3 | 3 | 8 | 6 | 3 | 3 | 8 | 1 | 2 | 3 | 3 | 6 | 3 | 3 | 2 | 6 | 3 | 3 | 3 | 3 | 7 | 3 | 1 | 3 |
| | | 8 | 2 | 1 | 8 | 8 | 1 | 2 | 7 | 6 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 9 | 1 | 8 | 2 |
| | | |
| FISCHER 344 RATS FEMALE
CONTROL | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | females (cont...) | |

| | |
|--|---|
| Mesentery
Necrosis | + | + | | | + | + | + | | | + | | | | | | | | | + | | | | | |
| | 3 | 3 | | | 3 | 3 | 3 | | | 3 | | | | | | | | | 3 | | | | | |
| Oral Mucosa
Inflammation, Suppurative | |
| Pancreas
Acinus, Atrophy | + |
| | | | | | | 3 | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + |
| Stomach, Forestomach
Ulcer | + |
| | 4 | | | | | | | | | | | | | | | | | | | | 4 | | | |
| Stomach, Glandular
Erosion | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | 3 | | | | | | | | |

[illegible][illegible]

I .. Insufficient tissue

BLANK .. Not examined microscopically

2) Mild 4) Marked

| | | | |
|-------------------------|-------------|-------|-------------------|
| | DAY ON TEST | 6 | 7 | 7 | 6 | 5 | 7 | 7 | 6 | 0 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 4 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 |
| | | 1 | 3 | 3 | 8 | 6 | 3 | 3 | 8 | 1 | 2 | 3 | 3 | 6 | 3 | 3 | 2 | 6 | 3 | 3 | 3 | 3 | 7 | 3 | 1 | 3 |
| | | 8 | 2 | 1 | 8 | 8 | 1 | 2 | 7 | 6 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 9 | 1 | 8 | 2 |
| | | | |
| FISCHER 344 RATS FEMALE | ANIMAL ID | 0 | 0 |
| CONTROL | | 0 | 0 |
| | | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | | females (cont...) |

| | | |
|---------------------------|--|---|
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Necrosis | | | | | | | | | | | | | | 3 | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | 1 | | | | | | | | | | | | 2 | | 2 | | | 1 | | 1 | | 2 | 1 | |
| | | |
| Adrenal Medulla | | + |
| | | |
| Islets, Pancreatic | | + |
| | | |
| Parathyroid Gland | | + | + | + | M | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M |
| | | |
| Pituitary Gland | | + |
| Cyst | | | | | 4 | | | 3 | | | | | | | | | | | 4 | | | | | | | |
| Hemorrhage | | | | | | | | | 4 | | | | | | | | | | | | | | 4 | | | |
| Hyperplasia | | | | | 4 | | | | | | | | 3 | 3 | | | 1 | 3 | 4 | | | | | | | |
| | | |
| Thyroid Gland | | + |
| C-cell, Hyperplasia | | | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | |
|-----------------------|--|---|
| Clitoral Gland | | + |
| Cyst | | | 2 | |
| Hyperplasia | | | | | | | | | | | | | | 4 | | | | | | | | | | | 4 | |
| Inflammation, Chronic | | | | | | | | 4 | | | | | | | | | | | | | | | | | 4 | |

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | FISCHER 344 RATS FEMALE CONTROL | | females
(cont...) |
|---------------------------------|--|---------------------------------|----------------------|
| DAY ON TEST | | 6
1
8 | 7
3
2 | 7
3
1 | 6
8
8 | 5
6
8 | 7
3
1 | 7
3
2 | 6
8
7 | 0
1
6 | 7
2
2 | 7
3
1 | 7
3
1 | 6
6
2 | 7
3
1 | 7
3
1 | 5
2
1 | 4
6
0 | 7
3
2 | 7
3
1 | 7
3
2 | 7
3
0 | 5
7
9 | 7
3
1 | 7
1
8 | 7
3
2 | |
| ANIMAL ID | | 0
0
1
0
1 | 0
0
1
0
2 | 0
0
1
0
3 | 0
0
1
0
4 | 0
0
1
0
5 | 0
0
1
0
6 | 0
0
1
0
7 | 0
0
1
0
8 | 0
0
1
0
9 | 0
0
1
1
0 | 0
0
1
1
1 | 0
0
1
1
2 | 0
0
1
1
3 | 0
0
1
1
4 | 0
0
1
1
5 | 0
0
1
1
6 | 0
0
1
1
7 | 0
0
1
1
8 | 0
0
1
1
9 | 0
0
1
2
0 | 0
0
1
2
1 | 0
0
2
2
2 | 0
0
2
2
3 | 0
0
2
2
4 | 0
0
2
2
5 | |
| | | | |
| | | | |
| Ovary | | + | + | |
| Atrophy | | | |
| Cyst | | | | | 3 | | | | | | | 4 | 4 | | | | | | | | | | | | 4 | | |
| Uterus | | + | + | |
| Hemorrhage | | | | | | | | | | | | | | | | | 4 | | | | | | | | | | |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | |
| Cervix, Myometrium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | |
| Endometrium, Hyperplasia | | 1 | | 3 | | | 2 | | | | | | | | | | | | | 3 | | | | | | 4 | |

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node

+

Lymph Node, Bronchial

M M

Angiectasis

Congestion

Hyperplasia, Lymphoid

Lymph Node, Mandibular

M M

Lymph Node, Mediastinal

M M M + + M + + + + + M M M M M M M M + M + + + M

Lymph Node, Mesenteric

Congestion

+ +

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | | |
|----------------------------------|-------------|-------|-------------------|
| | DAY ON TEST | 6 | 7 | 7 | 6 | 5 | 7 | 7 | 6 | 0 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 4 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 |
| | | 1 | 3 | 3 | 8 | 6 | 3 | 3 | 8 | 1 | 2 | 3 | 3 | 6 | 3 | 3 | 2 | 6 | 3 | 3 | 3 | 3 | 7 | 3 | 1 | 3 |
| | | 8 | 2 | 1 | 8 | 8 | 1 | 2 | 7 | 6 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 9 | 1 | 8 | 2 |
| | | | |
| FISCHER 344 RATS FEMALE | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| CONTROL |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | females (cont...) |
| Spleen | | + | + |
| Fibrosis | | | |
| Hematopoietic Cell Proliferation | | | |
| | | | |
| Thymus | | + | + |
| | | | |
| INTEGUMENTARY SYSTEM | | | |
| | | | |
| Mammary Gland | | + | + |
| Galactocele | | | |
| Epithelium, Hyperplasia | | | | | 1 | |
| | | | |
| Skin | | + | + |
| Hyperkeratosis | | | |
| | | | |
| MUSCULOSKELETAL SYSTEM | | | |
| | | | |
| Bone | | + | + |
| Maxilla, Fracture | | | |
| | | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | + | | | | | |
| Infiltration Cellular, Lipocyte | | | | | | | | | | | | | | | | | | | | | 4 | | | | | |
| | | | |
| NERVOUS SYSTEM | | | |
| | | | |
| Brain | | + | + |
| Compression | | | | | | | | | 4 | | 4 | | | | | 3 | | | | | | | | | 3 | |
| | | | |

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| DAY ON TEST | | 6 | 7 | 7 | 6 | 5 | 7 | 7 | 6 | 0 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 4 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 |
|-------------------------|--|---|
| | | 1 | 3 | 3 | 8 | 6 | 3 | 3 | 8 | 1 | 2 | 3 | 3 | 6 | 3 | 3 | 2 | 6 | 3 | 3 | 3 | 3 | 7 | 3 | 1 | 3 |
| | | 8 | 2 | 1 | 8 | 8 | 1 | 2 | 7 | 6 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 9 | 1 | 8 | 2 |
| FISCHER 344 RATS FEMALE | | 0 |
| ANIMAL ID | | 0 |
| CONTROL | | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |

females
(cont...)

Hemorrhage

Cerebrum, Infiltration Cellular,
Mononuclear Cell, Focal

2

4

X

RESPIRATORY SYSTEM

| | |
|---|---|
| Larynx | + |
| Foreign Body |
| Inflammation, Suppurative |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Epiglottis, Metaplasia, Squamous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Respiratory Epithelium, Hyperplasia |
| Lung | + |
| Hemorrhage |
| Inflammation, Chronic | | | | | | | | | | | 1 | | | 2 | | | | | | 2 | | | | | |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | 4 | | | | | | | | | | | | | 4 | | |
| Alveolar Epithelium, Metaplasia,
Squamous |
| Alveolus, Infiltration Cellular, Histocyte | 1 | | 1 | 2 | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | 1 |
| Bronchiole, Hyperplasia |
| Nose | + |
| Foreign Body | | | | X | |
| Inflammation, Suppurative | | | | 2 | |
| Goblet Cell, Hyperplasia |
| Nasolacrimal Duct, Inflammation,
Suppurative | |
| Olfactory Epithelium, Degeneration | | | | 1 | |
| Olfactory Epithelium, Degeneration, | | | | | | | | | | | 1 | | | | | | | | | | 2 | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | | |
|--------------------------------------|-------------|---|---|
| | DAY ON TEST | 6 | 7 | 7 | 6 | 5 | 7 | 7 | 6 | 0 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 4 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 |
| | | 1 | 3 | 3 | 8 | 6 | 3 | 3 | 8 | 1 | 2 | 3 | 3 | 6 | 3 | 3 | 2 | 6 | 3 | 3 | 3 | 3 | 7 | 3 | 1 | 3 |
| | | 8 | 2 | 1 | 8 | 8 | 1 | 2 | 7 | 6 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 9 | 1 | 8 | 2 |
| FISCHER 344 RATS FEMALE
CONTROL | | 0 | 0 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | females (cont...) |
| Mineralization | | | |
| Renal Tubule, Degeneration | | 4 | |
| Ureter | | | |
| Transitional Epithelium, Hyperplasia | | | |
| Urinary Bladder | | + | |

| | | |
|------------------------------------|--|----------|
| DAY ON TEST | | 5 | 4 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 0 | 1 | 7 | 7 | 5 | 7 | |
| | | 8 | 3 | 0 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 0 | 7 | 3 | 0 | 3 | |
| | | 5 | 9 | 7 | 2 | 2 | 1 | 0 | 1 | 2 | 4 | 8 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 9 | 6 | 1 | 2 | 8 | 0 |
| | | |
| FISCHER 344 RATS FEMALE
CONTROL | | 0 | 0 | |
| | | 0 | 0 | |
| | | 1 | 1 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| ANIMAL ID | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

ALIMENTARY SYSTEM

| | |
|----------------------------|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Intestine Large, Colon | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Duodenum | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Intestine Small, Ileum | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Intestine Small, Jejunum | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 3.3 |
| Basophilic Focus | | X | | X | | X | | | | | | X | X | X | X | | | | | | X | | X | | | 21 |
| Basophilic Focus, Multiple | | | | | | | | | X | | | | | | | | | | X | | | | | | | 5 |
| Clear Cell Focus | | | | | | | | | | | | | | | | | | | X | | | X | | | | 6 |
| Clear Cell Focus, Multiple |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 |
| Eosinophilic Focus |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Hepatodiaphragmatic Nodule | | | | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 |
| Necrosis | | | | | | | | | | 4 | | | | | | | | 2 | | | | | | | | 2 3.0 |
| Thrombosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Vacuolization Cytoplasmic | | 2 | 2 | | | | 3 | | 3 | | | | | | | | | | | | | | | | | 8 2.4 |
| Bile Duct, Bile Stasis | | | | | | | | | | 4 | | | | | | | | | | | | | | | | 1 4.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | | |
|------------------------------------|--|-----------|----------|
| DAY ON TEST | | 5 | 4 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 0 | 1 | 7 | 7 | 5 | 7 | | |
| | | 8 | 3 | 0 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 0 | 7 | 3 | 0 | 3 | | |
| | | 5 | 9 | 7 | 2 | 2 | 1 | 0 | 1 | 2 | 4 | 8 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 9 | 6 | 1 | 2 | 8 | 0 | |
| | | | |
| FISCHER 344 RATS FEMALE
CONTROL | | ANIMAL ID | 0 | | |
| | | 0 | 0 | | |
| | | 1 | 1 | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |

| | | |
|---------------------------|----|-----|
| Mesentery | + | | | + | + | | | | | | | | | | | + | + | | | | | | + | 14 | |
| Necrosis | 3 | | | 3 | 3 | | | | | | | | | | | 3 | 3 | | | | | | 3 | 14 | 3.0 |
| Oral Mucosa |  | + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | |
| Inflammation, Suppurative | | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Acinus, Atrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Ulcer | | | | | | | 4 | | | | 3 | 4 | | | | | | | | | | | | 5 | 3.8 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Erosion | | | | | | | | | | 3 | | | | | | | | | | | | | | 2 | 3.0 |

CARDIOVASCULAR SYSTEM

| | | |
|--------------------|----|-----|
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrium, Thrombosis | | | | | | | | | | 4 | | | | | | | | | | | | | | 1 | 4.0 |

ENDOCRINE SYSTEM

| | | |
|----------------|----|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Angiectasis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | 3 | 3.7 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | DAY ON TEST | | | | |
|------------------------------------|-----------|-------------|-----|-----|-----|-----|
| | | 5 | 4 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 0 | 1 | 7 | 7 | 5 | 7 | | | | |
| | | 8 | 3 | 0 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 0 | 7 | 3 | 0 | 0 | 3 | | | | |
| | | 5 | 9 | 7 | 2 | 2 | 1 | 0 | 1 | 2 | 4 | 8 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 9 | 6 | 1 | 2 | 8 | 0 | | | |
| | | | | | | |
| FISCHER 344 RATS FEMALE
CONTROL | ANIMAL ID | 0 | 0 | | | | |
| | | 0 | 0 | | | | |
| | | 1 | 1 | | | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | | |
| | | * TOTALS | | | | |
| Hyperplasia | | 2 | | | | | | | | 2 | | | | 1 | | 4 | | | | 2 | | 3 | | 7 | | 2.3 | | | |
| Necrosis | | | 1 | | 3.0 | |
| Vacuolization Cytoplasmic | | 1 | | | | 2 | | | | 2 | | 1 | | | | 2 | 2 | 2 | 4 | | | | 2 | | 2 | 2 | 18 | | 1.8 |
| Adrenal Medulla | | A | + | 49 | | | |
| Islets, Pancreatic | | + | + | 50 | | | |
| Parathyroid Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | M | + | + | + | + | + | M | 43 | | |
| Pituitary Gland | | + | + | 50 | | | |
| Cyst | | | 2 | 4 | | 3.3 | | |
| Hemorrhage | | | 2 | | 4.0 | |
| Hyperplasia | | 3 | 7 | | 3.0 | |
| Thyroid Gland | | + | + | 50 | | | |
| C-cell, Hyperplasia | | 2 | | | | 1 | | | | 1 | | 4 | | | | 1 | | | | | | | | 1 | | 8 | | 1.6 | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | |
|-----------------------|----|-----|--|
| Clitoral Gland | + | 50 | | |
| Cyst | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 2.5 | |
| Hyperplasia | 4 | | | | | 4 | | | | | 3 | | | | | 4 | | | | | 4 | | | | | 7 | 3.9 | |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 4.0 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | | |
|------------------------------------|-------------|----------|-------|
| FISCHER 344 RATS FEMALE
CONTROL | DAY ON TEST | 5 | 4 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 0 | 1 | 7 | 7 | 5 | 7 | |
| | | 8 | 3 | 0 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 0 | 7 | 3 | 0 | 0 | 3 | |
| | | 5 | 9 | 7 | 2 | 2 | 1 | 0 | 1 | 2 | 4 | 8 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 9 | 6 | 1 | 2 | 8 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CONTROL |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| Ovary |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | | | | | | | | | | | | | | | | | 4 | | | | | | | | | 1 4.0 |
| Cyst | | | | 4 | 4 | | | 4 | | | | | | | | | | 2 | | | | 3 | | | | 9 3.6 |
| Uterus |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Cervix, Myometrium, Hyperplasia | | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 3.0 |
| Endometrium, Hyperplasia | | | | | | | | | | | | | | | | | 2 | | | | | | | | | 6 2.5 |

HEMATOPOIETIC SYSTEM

| | |
|-------------------------|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | + | | | | | | | | | | | | | | | 2 |
| Lymph Node, Bronchial | M | + | M | M | M | M | M | M | M | M | + | M | M | M | M | M | M | M | + | + | M | M | M | M | 4 | |
| Angiectasis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 1 4.0 |
| Congestion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 1 4.0 |
| Hyperplasia, Lymphoid | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Lymph Node, Mandibular | M | M | M | M | + | M | M | M | M | M | + | M | M | M | M | M | M | M | + | M | M | M | M | M | 3 | |
| Lymph Node, Mediastinal | + | M | + | M | + | M | + | + | M | M | + | + | + | + | M | M | + | M | + | M | + | + | + | + | M | 26 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Congestion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 1 4.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | 5 | 4 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 0 | 1 | 7 | 7 | 5 | 7 | |
|------------------------------------|-----------|----------|
| DAY ON TEST | | 8 | 3 | 0 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 0 | 7 | 3 | 0 | 0 | 3 | |
| | | 5 | 9 | 7 | 2 | 2 | 1 | 0 | 1 | 2 | 4 | 8 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 9 | 6 | 1 | 2 | 8 | 0 |
| | | |
| FISCHER 344 RATS FEMALE
CONTROL | ANIMAL ID | 0 | 0 | |
| | | 0 | 0 | |
| | | 1 | 1 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | | |
|----------------------------------|----|-----|
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Fibrosis | | | | | | | | | | | | 4 | | | | | | | | | | | | | | 1 | 4.0 |
| Hematopoietic Cell Proliferation | | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | 2 | 3.5 |
| <hr/> | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

INTEGUMENTARY SYSTEM

| | | |
|-------------------------|----|-----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Galactocele | | | | | | | | | | 2 | | | | | | | | | | | | | 2 | | | 2 | 2.0 |
| Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 1.0 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperkeratosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | 1 | 3.0 |

MUSCULOSKELETAL SYSTEM

| | | |
|---------------------------------|----|-----|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Maxilla, Fracture |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | | | | 1 | |
| Skeletal Muscle |  | + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | |
| Infiltration Cellular, Lipocyte |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |

NERVOUS SYSTEM

| | | |
|-------------|----|-------|
| Brain | + | 50 | |
| Compression | | | | | | | | | 4 | | | | 4 | 2 | | | | | | | | | | | | | 7 3.4 |

| | | |
|------------------------------------|-------------|----------|
| FISCHER 344 RATS FEMALE
CONTROL | DAY ON TEST | 5 | 4 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 0 | 1 | 7 | 7 | 5 | 7 | |
| | | 8 | 3 | 0 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 0 | 7 | 3 | 0 | 0 | 3 | |
| | | 5 | 9 | 7 | 2 | 2 | 1 | 0 | 1 | 2 | 4 | 8 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 9 | 6 | 1 | 2 | 8 | 0 |
| | | |
| | ANIMAL ID | 0 | 0 | |
| | | 0 | 0 | |
| | | 1 | 1 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

Hemorrhage
Cerebrum, Infiltration Cellular,
Mononuclear Cell, Focal

3 4 4 4 6 3.5
1

RESPIRATORY SYSTEM

| | | |
|--|----|--------|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body | | | | | | | | 4 | | | | | | | | | | | | | | | | | | 1 4.0 |
| Inflammation, Suppurative | | | | | | | | 4 | | | | | | | | 3 | | | | | | | | | | 2 3.5 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |
| Epiglottis, Metaplasia, Squamous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |
| Respiratory Epithelium, Hyperplasia | | | | | | | | 4 | | | | | | | | | | | | | | | | | | 1 4.0 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 1 4.0 |
| Inflammation, Chronic | | | | | | | | | | | | | 2 | | | | | | | | | | 2 | | | 5 1.8 |
| Alveolar Epithelium, Hyperplasia | | | | | | | 4 | | | | | | | | | | | | | | | | | | | 3 4.0 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | 3 | | | | | | | | 1 3.0 |
| Alveolus, Infiltration Cellular, Histocyte | | | | | 1 | 1 | 1 | | | | 1 | | 1 | | 1 | 1 | | | 2 | | | | 1 | | | 20 1.1 |
| Bronchiole, Hyperplasia | | | | | | | | | | | 2 | | | | | | | | | | | | | | | 1 2.0 |
| Nose | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Inflammation, Suppurative | | | | | | | | | | | | 3 | | | | | | | | | | | | | | 2 2.5 |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | 2 | | | | | | | | | | | | | | 1 2.0 |
| Nasolacrimal Duct, Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | | | 1 2.0 |
| Olfactory Epithelium, Degeneration |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 1.0 |
| Olfactory Epithelium, Degeneration, | | | | | 1 | | | | | | | | | | | | | 1 | | | | | | | | 4 1.3 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | |
|------------------------------------|-----------|----------|
| DAY ON TEST | | 5 | 4 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 0 | 1 | 7 | 7 | 5 | 7 |
| | | 8 | 3 | 0 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 0 | 7 | 3 | 0 | 3 |
| | | 5 | 9 | 7 | 2 | 2 | 1 | 0 | 1 | 2 | 4 | 8 | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 9 | 6 | 1 | 2 | 8 |
| | | |
| FISCHER 344 RATS FEMALE
CONTROL | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 1 | 1 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | * TOTALS | |

| |
|---------|
| Hyaline | |
|---------|

SPECIAL SENSES SYSTEM

| | | | |
|----------------------------------|----|---|-----|
| Eye
Inflammation, Suppurative | A | + | 48 | | |
| Lens, Cataract | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Retina, Atrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | 5 | 3.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 3.0 |
| Harderian Gland |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |

URINARY SYSTEM

| | | | |
|--|----|-----|-----|
| Kidney | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Nephropathy | | | | 1 | | 2 | | 1 | 1 | 1 | | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 2 | | | | 2 | 1 | | 1 | 34 | 1.6 |
| Papilla, Mineralization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | | | | 1 | 1 | 1.0 |
| Pelvis, Transitional Epithelium, Hyperplasia | | | | 2 | | | | 2 | | | | | | | | | | 3 | | | | | | | | 5 | 2.2 | |
| Pelvis, Transitional Epithelium, | | | | 1 | | | | 1 | 2 | | | 2 | 2 | 1 | 1 | | 2 | | 1 | | | | 1 | 1 | | 1 | 31 | 1.5 |

| | | | |
|--|--|-------------|-----------------------|
| FISCHER 344 RATS FEMALE
CONTROL | | DAY ON TEST | 5
8
5 | 4
3
9 | 6
0
7 | 7
3
2 | 7
1
2 | 7
3
1 | 6
6
0 | 7
3
1 | 7
3
2 | 6
3
8 | 7
3
2 | 7
3
1 | 7
3
1 | 7
3
1 | 7
3
2 | 6
4
0 | 7
3
1 | 0
0
9 | 1
7
6 | 7
3
1 | 7
0
2 | 5
0
8 | 7
3
0 | |
| | | | |
| | | ANIMAL ID | 0
0
1
2
6 | 0
0
1
2
7 | 0
0
1
2
8 | 0
0
1
2
9 | 0
0
1
3
0 | 0
0
1
3
1 | 0
0
1
3
2 | 0
0
1
3
3 | 0
0
1
3
4 | 0
0
1
3
5 | 0
0
1
3
6 | 0
0
1
3
7 | 0
0
1
3
8 | 0
0
1
3
9 | 0
0
1
4
0 | 0
0
1
4
1 | 0
0
1
4
2 | 0
0
1
4
3 | 0
0
1
4
4 | 0
0
1
4
5 | 0
0
1
4
6 | 0
0
1
4
7 | 0
0
1
4
8 | 0
0
1
4
9 |
| * TOTALS | | | |
| Mineralization
Renal Tubule, Degeneration | | 1 4.0 | |
| Ureter
Transitional Epithelium, Hyperplasia | | 1 3.0 | |
| Urinary Bladder | | 50 | |

| | | 7 | 5 | 7 | 7 | 4 | 5 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | |
|--|-----------|-------------------|
| DAY ON TEST | | 3 | 3 | 3 | 3 | 3 | 5 | 8 | 3 | 3 | 3 | 1 | 6 | 3 | 3 | 2 | 3 | 1 | 3 | 4 | 4 | 3 | 3 | 6 | 3 | 6 |
| | | 2 | 7 | 2 | 2 | 5 | 7 | 8 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 5 | 1 | 9 | 2 | 1 | 2 | 1 | 2 | 3 |
| | | |
| FISCHER 344 RATS FEMALE

100 PPM | ANIMAL ID | 0 | 0 | |
| | | 0 | 0 | |
| | | 3 | 3 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | females (cont...) | |

ALIMENTARY SYSTEM

| |
|----------------------------|
| Esophagus | + |
| Intestine Large, Cecum | + | + | + | + | A | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | A | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | A | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Necrosis | 4 | |
| Intestine Small, Jejunum | + | + | + | + | A | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Diverticulum | 4 | |
| Liver | + |
| Angiectasis |
| Basophilic Focus | | | | | | | | X | X | | X | | | X | | X | | | X | | | | X | X | |
| Basophilic Focus, Multiple | | | | | | | | | | X | | | | X | | | | | | | | X | X | | |
| Clear Cell Focus | | | | | | | | | X | | | | | X | X | | | | | | | | X | | |
| Hepatodiaphragmatic Nodule | | | | 4 | | 4 | | | | | | 4 | | | | | | | | | | | 4 | | |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 |
| Vacuolization Cytoplasmic | 1 | | | | | | 3 | | | | | | | | | 2 | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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| | | 7 | 5 | 7 | 7 | 4 | 5 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | |
|---|--|---|
| DAY ON TEST | | 3 | 3 | 3 | 3 | 3 | 5 | 8 | 3 | 3 | 3 | 1 | 6 | 3 | 3 | 2 | 3 | 1 | 3 | 4 | 4 | 3 | 3 | 6 | 3 | 6 |
| | | 2 | 7 | 2 | 2 | 5 | 7 | 8 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 5 | 1 | 9 | 2 | 1 | 2 | 1 | 2 | 3 |
| FISCHER 344 RATS FEMALE | | 0 | |
| ANIMAL ID | | 0 | |
| 100 PPM | | 3 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| Mesentery | | + | | + | | | | | + | + | | | | | | + | + | + | | + | + | | | | | |
| Necrosis | | 3 | | 3 | | | | | 3 | 3 | | | | | | 3 | 3 | 3 | | 3 | | 3 | 3 | | | |
| Pancreas | | + | |
| Duct, Cyst | | | | | | | | | | | | 4 | | | | | | | | | | | | | | |
| Salivary Glands | | + | |
| Stomach, Forestomach | | + | |
| Diverticulum | | |
| Hyperplasia, Squamous | | | 3 | | | | | | | | | | | | | | | 3 | | | | | | | | |
| Ulcer | | | 4 | | | | | | | | | | | | | | | 3 | | | | | | | | |
| Epithelium, Muscularis, Inflammation, Suppurative | | | | | | | 4 | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | | + | |
| Ulcer | | | | | | | 4 | | | | | | | | | | | | | | | | | | | |
| Tongue | | |
| Epithelium, Hyperplasia | | |

CARDIOVASCULAR SYSTEM

| | | |
|--|--|---|
| Blood Vessel | | | | | | | + | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Polymorphonuclear | | | | | | | X | | | | | | | | | | | | | | | | | | |
| Heart | | + |
| Atrium, Thrombosis | | |

| | | |
|------------------------------------|--|-------------------|
| DAY ON TEST | | 7 | 5 | 7 | 7 | 4 | 5 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | |
| | | 3 | 3 | 3 | 3 | 3 | 5 | 8 | 3 | 3 | 3 | 1 | 6 | 3 | 3 | 2 | 3 | 1 | 3 | 4 | 4 | 3 | 3 | 6 | 3 | 6 |
| | | 2 | 7 | 2 | 2 | 5 | 7 | 8 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 5 | 1 | 9 | 2 | 1 | 2 | 1 | 2 | 3 |
| | | |
| FISCHER 344 RATS FEMALE
100 PPM | | 0 | 0 | |
| | | 0 | 0 |
| | | 3 | 3 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| ANIMAL ID | | females (cont...) | |

ENDOCRINE SYSTEM

| |
|---------------------------|
| Adrenal Cortex | + |
| Hyperplasia | | | | | | | | | | | | | 3 | | | | | | | | | | 3 | | |
| Hypertrophy | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Necrosis | | | | | | 4 | | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | 2 | | | | | 1 | | | | 2 | 1 | 4 | | 1 | 2 | | | | | 3 | | 2 | |
| Adrenal Medulla | + |
| Hemorrhage | | | | | | | | | | | 4 | | | | | | | | | | | | | | |
| Islets, Pancreatic | + |
| Parathyroid Gland | + |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + |
| Cyst | | 3 | | 4 | | | | | | 2 | | | | | | | | | | | | | | | 4 |
| Hyperplasia | | | 2 | | | | | 3 | 2 | | | | | | | 4 | | | | | | | 4 | | |
| Thyroid Gland | + |
| C-cell, Hyperplasia | | | | | | | | 1 | | 1 | | | | 4 | | | | 3 | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | | | |
|------------------------------------|--|-------------|----------------------|--|
| FISCHER 344 RATS FEMALE
100 PPM | | DAY ON TEST | 7
3
2 | 5
3
7 | 7
3
2 | 7
3
2 | 4
3
5 | 5
5
7 | 6
8
8 | 7
3
2 | 7
3
2 | 7
3
1 | 6
1
0 | 6
6
0 | 7
3
1 | 7
3
2 | 7
3
1 | 7
3
1 | 7
3
5 | 7
3
1 | 6
4
9 | 6
4
2 | 7
3
1 | 7
3
2 | 5
6
1 | 7
3
2 | 6
6
3 | females
(cont...) | |
| | | | | |
| | | ANIMAL ID | 0
0
3
0
1 | 0
0
3
0
2 | 0
0
3
0
3 | 0
0
3
0
4 | 0
0
3
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5 | 0
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6 | 0
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7 | 0
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8 | 0
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9 | 0
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0 | 0
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1 | 0
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1
2 | 0
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3 | 0
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1
4 | 0
0
3
1
5 | 0
0
3
1
6 | 0
0
3
1
7 | 0
0
3
1
8 | 0
0
3
2
9 | 0
0
3
2
0 | 0
0
3
2
1 | 0
0
3
2
2 | 0
0
3
2
3 | 0
0
3
2
4 | 0
0
3
2
5 | | |

| | |
|---|---|
| Clitoral Gland
Hyperplasia | + |
| Ovary
Cyst | + |
| Uterus
Hemorrhage
Endometrium, Hyperplasia
Myometrium, Hyperplasia | + |
| Vagina | |

HEMATOPOIETIC SYSTEM

| | |
|--|---|
| Bone Marrow | + |
| Lymph Node |
| Lymph Node, Bronchial
Hyperplasia, Lymphoid | M | M | M | + | M | M | M | M | M | M | M | + | M | M | M | M | M | M | M | M | M | M | + | M | M | M |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M |
| Lymph Node, Mediastinal | M | M | M | + | M | M | + | M | + | M | M | M | + | M | + | M | + | + | + | M | I | M | M | M | M | + |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 89

| | | DAY ON TEST | | |
|--|--|----------------------|--|
| | | 7
3
2 | 5
3
7 | 7
3
2 | 7
3
2 | 4
3
5 | 5
5
7 | 6
8
8 | 7
3
2 | 7
3
2 | 7
3
1 | 6
1
0 | 6
6
0 | 7
3
1 | 7
3
2 | 7
3
1 | 7
3
1 | 7
3
5 | 7
3
1 | 6
4
9 | 6
4
2 | 7
3
1 | 7
3
2 | 5
6
1 | 7
3
2 | 6
3
3 | | |
| | | | | |
| FISCHER 344 RATS FEMALE | | 0 | |
| ANIMAL ID | | 0 | |
| 100 PPM | | 3 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | females
(cont...) | |
| Lymph Node, Mesenteric | | + | | |
| Spleen | | + | | |
| Accessory Spleen | | | |
| Hematopoietic Cell Proliferation | | | | | | 4 | 4 | | |
| Thymus | | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | | |
| Cyst | | | |
| INTEGUMENTARY SYSTEM | | | |
| Mammary Gland | | + | | |
| Galactoceles | | | | | | | 4 | | | 1 | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | 4 | | |
| Skin | | + | | |
| Cyst Epithelial Inclusion | | | |
| Hyperkeratosis | | 3 | | |
| Ulcer | | | | | | | 4 | | |
| Subcutaneous Tissue, Inflammation, Granulomatous | | | |
| MUSCULOSKELETAL SYSTEM | | | |
| Bone | | + | | |
| Skeletal Muscle | | | |

| | | |
|------------------------------------|--|-------------------|
| DAY ON TEST | | 7 | 5 | 7 | 7 | 4 | 5 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | |
| | | 3 | 3 | 3 | 3 | 3 | 5 | 8 | 3 | 3 | 3 | 1 | 6 | 3 | 3 | 2 | 3 | 1 | 3 | 4 | 4 | 3 | 3 | 6 | 3 | 6 |
| | | 2 | 7 | 2 | 2 | 5 | 7 | 8 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 5 | 1 | 9 | 2 | 1 | 2 | 1 | 2 | 3 |
| | | |
| FISCHER 344 RATS FEMALE
100 PPM | | 0 | 0 | |
| | | 0 | 0 | |
| | | 3 | 3 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | |
| ANIMAL ID | | 0 | 0 | |
| | | 3 | 3 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | |
| | | females (cont...) | |

NERVOUS SYSTEM

| |
|---------------------------|
| Brain | + |
| Compression | | | | | | | | | | | | 4 | | | | | | | | | | 4 | 4 | | |
| Hemorrhage | | | | | | | | | | | | 4 | | 4 | | | | | | | | | | | |
| Cerebellum, Hydrocephalus | |

RESPIRATORY SYSTEM

| | |
|---|---|
| Larynx | + |
| Foreign Body | | | | | | 4 | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic |
| Respiratory Epithelium, Hyperplasia | | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| Lung | + |
| Infiltration Cellular, Polymorphonuclear | | | | | | X | | | | | | | | | | | | | | | | | | | |
| Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | 3 | | | | | | |
| Inflammation, Chronic | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | | | 2 | 3 | | | | | | | 4 | | | | 4 | | | | | | | | | | |
| Alveolus, Infiltration Cellular, Histiocyte | 1 | | | 3 | | | | | | | 1 | 1 | | 1 | | | | 1 | | 1 | | | 1 | 1 | |
| Bronchiole, Foreign Body | | | | | | | | | | | | | | | | | | | X | | | | | | |
| Bronchiole, Inflammation, Chronic |
| Nose | + |
| Foreign Body | | X | |
| Inflammation, Suppurative | | | | | | 3 | | | | | 3 | | | | | | | | | | | | | | |
| Goblet Cell, Hyperplasia |
| Nasolacrimal Duct, Inflammation, |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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| | | |
|------------------------------------|--|-------------------|
| DAY ON TEST | | 7 | 5 | 7 | 7 | 4 | 5 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | |
| | | 3 | 3 | 3 | 3 | 3 | 5 | 8 | 3 | 3 | 3 | 1 | 6 | 3 | 3 | 2 | 3 | 1 | 3 | 4 | 4 | 3 | 3 | 6 | 3 | 6 |
| | | 2 | 7 | 2 | 2 | 5 | 7 | 8 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 5 | 1 | 9 | 2 | 1 | 2 | 1 | 2 | 3 |
| | | |
| FISCHER 344 RATS FEMALE
100 PPM | | ANIMAL ID | 0 |
| | | 0 | 0 |
| | | 3 | 3 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | females (cont...) | |

| |
|-------------|
| Suppurative | |
|-------------|

SPECIAL SENSES SYSTEM

| |
|-----------------------------|
| Eye |
| Lens, Cataract |
| Sclera, Metaplasia, Osseous | |
| |
| Harderian Gland |
| |

URINARY SYSTEM

| |
|---------------------|
| Kidney |
| Nephropathy |
| Capsule, Hemorrhage | |
| |

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | 7 | 5 | 7 | 7 | 4 | 5 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | | | | | | | | |
|---|--|-------------------|--|---|---|--|--|--|--|
| DAY ON TEST | | 3 | 3 | 3 | 3 | 3 | 5 | 8 | 3 | 3 | 3 | 1 | 6 | 3 | 3 | 2 | 3 | 1 | 3 | 4 | 4 | 3 | 3 | 6 | 3 | 6 | | | | | | | |
| | | 2 | 7 | 2 | 2 | 5 | 7 | 8 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 5 | 1 | 9 | 2 | 1 | 2 | 1 | 2 | 3 | | | | | | | |
| FISCHER 344 RATS FEMALE | | 0 | 0 | | | | | | | |
| ANIMAL ID | | 0 | 0 | | | | | | | |
| 100 PPM | | 3 | 3 | | | | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | | | | | | |
| | | females (cont...) | | | | | | | |
| Cortex, Infarct | | X | | | | | | | |
| Papilla, Mineralization | | 1 | | | | | | | | | 1 | | | | | | | | | | | 1 | | | | | | | 1 | | | | |
| Pelvis, Transitional Epithelium, Hyperplasia | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 2 | | | | | |
| Pelvis, Transitional Epithelium, Mineralization | | | | | | 1 | | | | 1 | 1 | 1 | | | | | 1 | 1 | | | 1 | | | 1 | 1 | 1 | | | | | | | |
| Pelvis, Dilatation | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | |
| Urinary Bladder | | + | + | | | | | | | |
| Serosa, Edema |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | | | |
| Transitional Epithelium, Hyperplasia | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | |
|------------------------------------|-------------|----------|
| | DAY ON TEST | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 6 | 6 | 4 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 |
| | | 3 | 3 | 3 | 3 | 5 | 9 | 3 | 8 | 9 | 9 | 8 | 3 | 3 | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 0 | 8 | 2 | 3 | 0 |
| | | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 5 | 4 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 1 | 7 | 0 |
| FISCHER 344 RATS FEMALE
100 PPM | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 3 | 3 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

ALIMENTARY SYSTEM

| | | | |
|--|---|-------|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Intestine Small, Ileum
Necrosis | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| | | 1 4.0 | |
| Intestine Small, Jejunum
Diverticulum | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| | | 2 4.0 | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 |
| Basophilic Focus | X | X | X | X | | | X | | | | | | X | X | | X | | X | X | X | X | | X | X | | 23 |
| Basophilic Focus, Multiple |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 |
| Clear Cell Focus | X | | | | | | | | | | | | | X | | | | | | | | | | | | 6 |
| Hepatodiaphragmatic Nodule | 4 | | | | | 4 | | | | | | | | | | | | | | | | | | | | 6 |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Vacuolization Cytoplasmic | | | | | | | | | | 4 | | | | | | 3 | | | | | | | | | | 5 |
| | | 2.6 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 6 | 6 | 4 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 | | |
|---|-----------|-------|----|----------|--|
| DAY ON TEST | | 3 | 3 | 3 | 3 | 5 | 9 | 3 | 8 | 9 | 9 | 8 | 3 | 3 | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 0 | 8 | 2 | 3 | 0 | | |
| | | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 5 | 4 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 4 | 2 | 1 | 7 | 0 | |
| | | | | | |
| FISCHER 344 RATS FEMALE
100 PPM | ANIMAL ID | 0 | 0 | | |
| | | 0 | 0 | | |
| | | 3 | 3 | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS | |
| | | | | | |
| Mesentery | | + | | | + | + | | | | | | | + | + | | | | | | | + | + | | | | 17 | | |
| Necrosis | | 3 | | | 3 | 3 | | | | | | | 3 | 3 | | | | | | | 3 | 3 | | | | | 17 3.0 | |
| | | | | | |
| Pancreas | | + | + | 50 | |
| Duct, Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 | |
| | | | | | |
| Salivary Glands | | + | + | 50 | |
| | | | | | |
| Stomach, Forestomach | | + | + | 50 | |
| Diverticulum |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | 1 4.0 | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | 3 | | | | | | | | | | 4 | | 4 3.3 | |
| Ulcer | | | | | | | | | 4 | | | | | | | | | | | | | | | 4 | 4 | | 5 3.8 | |
| Epithelium, Muscularis, Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 | |
| | | | | | |
| Stomach, Glandular | | + | + | 50 | |
| Ulcer |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 | |
| | | | | | |
| Tongue | | | + | | | | | 1 | |
| Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | | | | 1 1.0 | |

CARDIOVASCULAR SYSTEM

| |
|--------------|
| Blood Vessel | |
|--------------|

| | | |
|------------------------------------|-------------|----------|
| FISCHER 344 RATS FEMALE
100 PPM | DAY ON TEST | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 6 | 6 | 4 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 | |
| | | 3 | 3 | 3 | 3 | 5 | 9 | 3 | 8 | 9 | 9 | 8 | 3 | 3 | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 0 | 8 | 2 | 3 | 0 | |
| | | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 5 | 4 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 1 | 7 | 0 | |
| | ANIMAL ID | 0 | |
| | | 0 | |
| | | 3 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |

ENDOCRINE SYSTEM

| | | |
|---------------------------|----|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 1 | | 3 | | 5 | 2.4 |
| Hypertrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2.0 |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Vacuolization Cytoplasmic | 1 | | 1 | | | 1 | | 2 | | | | 4 | | | | 2 | | | 2 | 1 | 3 | | | | | 18 | 1.9 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | 5 | 3.2 |
| Hyperplasia | | 2 | | | | | | | 4 | | | | | 4 | | | | | | | | | | | | 8 | 3.1 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | 2 | | | | | | | | | | | 5 | 2.2 |

GENERAL BODY SYSTEM
NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Page 96

| | | |
|---|--|----------|
| DAY ON TEST | | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 6 | 6 | 4 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 | |
| | | 3 | 3 | 3 | 3 | 5 | 9 | 3 | 8 | 9 | 9 | 8 | 3 | 3 | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 0 | 8 | 2 | 3 | 0 | |
| | | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 5 | 4 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 1 | 7 | 0 | |
| FISCHER 344 RATS FEMALE
100 PPM
ANIMAL ID | | |
| | | 0 | |
| | | 0 | |
| | | 3 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |

| | | | |
|--------------------------|----|-----|-----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | 4 | | | | | | | | | | | | 4 | | 3 | | | | | | | | | 6 | 3.7 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 3.5 | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Endometrium, Hyperplasia | | | 3 | | | | | | | 3 | | | | | | | | | | | | | | | | 3 | 3.0 |
| Myometrium, Hyperplasia | | | | | | | | | | | | | | | | | 4 | | | | | | | | | 1 | 4.0 |
| Vagina |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | + | 1 | |

HEMATOPOIETIC SYSTEM

| | | | | |
|--|----|----|---|-----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Lymph Node | | | | | | | | | + | | + | | | | | | | | | | | | | | 3 | | | |
| Lymph Node, Bronchial
Hyperplasia, Lymphoid | + | + | M | M | M | M | M | M | M | M | + | M | M | M | M | + | M | M | M | M | M | M | M | M | M | 7 | 1 | 4.0 |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 0 | | |
| Lymph Node, Mediastinal | + | + | + | + | + | + | + | + | + | + | + | + | M | M | M | + | M | M | + | M | M | M | M | + | + | 25 | | |

| | | | |
|--|-------------|-------|----------|
| | DAY ON TEST | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 6 | 6 | 4 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 | |
| | | 3 | 3 | 3 | 3 | 5 | 9 | 3 | 8 | 9 | 9 | 8 | 3 | 3 | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 0 | 8 | 2 | 3 | 0 | |
| | | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 5 | 4 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 1 | 7 | 0 | |
| FISCHER 344 RATS FEMALE
100 PPM | ANIMAL ID | 0 | |
| | | 0 | |
|  |  | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |
| Lymph Node, Mesenteric |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Spleen |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Accessory Spleen | | | | | | | | | | | | | | | | | 4 | | | | | | | | | 1 4.0 | |
| Hematopoietic Cell Proliferation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 | |
| Thymus |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Cyst | | | | | | | | | | 4 | | | | | | | | | | | | | | | | 1 4.0 | |
| INTEGUMENTARY SYSTEM | | | |
| Mammary Gland |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Galactoceles | | | | | | | | | | 4 | | | | | | | | | | | | | | | | 3 3.0 | |
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 | |
| Skin |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst Epithelial Inclusion | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 | |
| Hyperkeratosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 | |
| Ulcer |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 | |
| Subcutaneous Tissue, Inflammation, Granulomatous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | 1 3.0 | |
| MUSCULOSKELETAL SYSTEM | | | |
| Bone |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Skeletal Muscle |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | + |  | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 98

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | DAY ON TEST | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 6 | 6 | 4 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 |
|-------------------------|-------------|----------|
| | | 3 | 3 | 3 | 3 | 5 | 9 | 3 | 8 | 9 | 9 | 8 | 3 | 3 | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 0 | 8 | 2 | 3 | 0 |
| | | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 5 | 4 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 1 | 7 | 0 |
| FISCHER 344 RATS FEMALE | | 0 | 0 |
| ANIMAL ID | | 0 | 0 |
| 100 PPM | | 3 | 3 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

NERVOUS SYSTEM

| | |
|---------------------------|----|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Compression | | | 3 | | | | | | 4 | | | | | 4 | | | 3 | | | | | | | | | 7 |
| Hemorrhage | | | | | | | | | | 4 | | 3 | | | | | | | | | | | | | | 4 |
| Cerebellum, Hydrocephalus |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | 1 |

RESPIRATORY SYSTEM

| | |
|--|----|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 1 | | | | | | | 1 |
| Respiratory Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Infiltration Cellular, Polymorphonuclear |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Inflammation, Granulomatous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | 4 | | | | | | | 4 | | | | | | | | | | 6 |
| Alveolus, Infiltration Cellular, Histocyte | | | 1 | | | 1 | 1 | | | | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | | | | | 19 |
| Bronchiole, Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Bronchiole, Inflammation, Chronic | | | | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Foreign Body | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| Inflammation, Suppurative | | | | | | 3 | | | | | | 2 | | 2 | | | | | | | | | | | | 5 |
| Goblet Cell, Hyperplasia | | | | | | 2 | | | | | | | | | | | | | | | | | | | | 1 |
| Nasolacrimal Duct, Inflammation, |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | |
|------------------------------------|-------------|----------|
| | DAY ON TEST | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 6 | 6 | 4 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 6 |
| | | 3 | 3 | 3 | 3 | 5 | 9 | 3 | 8 | 9 | 9 | 8 | 3 | 3 | 1 | 3 | 6 | 3 | 2 | 3 | 3 | 0 | 8 | 2 | 3 | 0 |
| | | 2 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | 4 | 5 | 4 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 1 | 7 | 0 |
| FISCHER 344 RATS FEMALE
100 PPM | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 3 | 3 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| |
|-------------|
| Suppurative | |
|-------------|

SPECIAL SENSES SYSTEM

| | | | |
|-----------------------------|----|----|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Lens, Cataract |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Sclera, Metaplasia, Osseous | | | | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2.0 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

URINARY SYSTEM

| | | |
|---------------------|----|-----|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Nephropathy | 1 | 2 | | 2 | | | 2 | 1 | | | | | 1 | | 2 | | 2 | 1 | 2 | 1 | 1 | 1 | | | | 27 | 1.3 |
| Capsule, Hemorrhage | | 1 | 4.0 |

| | | | |
|---|--|-------------------------|----|
| DAY ON TEST | | 7
3
2 | 7
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2 | 7
3
2 | 6
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2 | 5
9
0 | 7
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2 | 6
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3 | 6
9
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8
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1 | 6
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2 | 7
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2 | 7
3
2 | 7
3
2 | 7
0
4 | 6
8
2 | 6
2
1 | 5
3
7 | 6
0
0 | |
| | | | |
| | | FISCHER 344 RATS FEMALE | | |
| ANIMAL ID

100 PPM | | 0 | 0 | |
| | | 0 | 0 | |
| | | 3 | 3 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| Cortex, Infarct | | 1 | |
| Papilla, Mineralization | | 6 1.0 | |
| Pelvis, Transitional Epithelium, Hyperplasia | | 3 1.7 | |
| Pelvis, Transitional Epithelium, Mineralization | | 1 | 1 | 2 | 1 | | | 1 | 1 | 1 | | | 1 | 1 | | 1 | 1 | 1 | | | 1 | 1 | | | 26 1.0 | |
| Pelvis, Dilatation | | 1 2.0 | |
| | | | |
| Urinary Bladder |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Serosa, Edema | | 1 4.0 | |
| Transitional Epithelium, Hyperplasia | | 1 1.0 | |

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

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First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | |
|------------------------------------|--|-------------------|
| DAY ON TEST | | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | |
| | | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 8 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 8 | 3 |
| | | 2 | 2 | 2 | 1 | 7 | 6 | 2 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 2 | 4 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 9 | 1 |
| FISCHER 344 RATS FEMALE
300 PPM | | |
| | | 0 | 0 | |
| | | 0 | 0 | |
| | | 5 | 5 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | females (cont...) | |

ALIMENTARY SYSTEM

| |
|----------------------------|
| Esophagus | + |
| Intestine Large, Cecum | + |
| Intestine Large, Colon | + |
| Intestine Large, Rectum | + |
| Intestine Small, Duodenum | + |
| Intestine Small, Ileum | + |
| Intestine Small, Jejunum | + |
| Liver | + |
| Angiectasis | | | | | | | | | | | 3 | | | | | | | | | | | | | | |
| Basophilic Focus | | X | X | X | | | X | | X | X | | | X | | X | | X | X | X | | | X | X | | |
| Basophilic Focus, Multiple | | | | | X | | | X | | X | | | | | | | | | | X | X | | | | |
| Clear Cell Focus |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | | | X |
| Clear Cell Focus, Multiple | | X | |
| Eosinophilic Focus |
| Hepatodiaphragmatic Nodule | | 4 | | | | | | | | | | | | | | | 4 | | | | | | | 4 | |
| Inflammation, Suppurative | |
| Necrosis |
| Thrombosis |
| Vacuolization Cytoplasmic | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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1) Minimal 3) Moderate

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| | | | |
|------------------------------------|--|-------------|-----------------------|
| FISCHER 344 RATS FEMALE
300 PPM | | DAY ON TEST | 7
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| | | | | females
(cont...) | |

ENDOCRINE SYSTEM

| |
|---------------------------|
| Adrenal Cortex | + |
| Hyperplasia | 1 | | | 2 | 2 | | | | 2 | | | | | 4 | 2 | 4 | | | | | | | | 3 |
| Necrosis | | | 2 | |
| Vacuolization Cytoplasmic | 1 | | | | | 2 | | | | 2 | | | 4 | 2 | 1 | 2 | | | | | | | | 1 |
| Adrenal Medulla | + |
| Hyperplasia | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + |
| Parathyroid Gland | + | + | + | + | + | + | + | + | M | + | + | + | M | M | + | + | + | + | + | + | + | M | + | + |
| Pituitary Gland | + |
| Cyst |
| Hemorrhage | | | | | | | | | | | | | | | 4 | | | | | | | | | |
| Hyperplasia | | | | | | | | | 4 | | | | | | | | | 4 | | | | | | |
| Thyroid Gland | + |
| C-cell, Hyperplasia | | | 3 | | | | | | | | | | | 4 | | | | | | 1 | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Page 104

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|--|--|-----------------------|--|
| FISCHER 344 RATS FEMALE
300 PPM | | 0
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| ANIMAL ID | | females
(cont...) | | |
| Clitoral Gland
Hyperplasia
Inflammation, Chronic | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 4 | | | 3 | | | |
| Ovary
Cyst | | + | |
| Uterus
Cyst
Hemorrhage
Hydrometra
Thrombosis
Endometrium, Hyperplasia
Endometrium, Inflammation, Suppurative | | + | |

HEMATOPOIETIC SYSTEM

| | |
|--|---|
| Bone Marrow | + | |
| Lymph Node
Pancreatic, Hemorrhage | | | | | | + | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Bronchial
Hyperplasia, Lymphoid | M | M | M | M | + | M | M | M | M | M | M | M | M | M | M | M | M | + | M | M | M | M | M | M | |
| Lymph Node, Mandibular | M | |
| Lymph Node, Mediastinal | + | M | + | M | + | + | + | + | M | + | + | + | M | M | M | + | M | M | M | M | M | M | M | + | + |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 105

| | | | |
|---|--|-------------------|--|
| DAY ON TEST | | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | | |
| | | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 8 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 8 | 3 | |
| | | 2 | 2 | 2 | 1 | 7 | 6 | 2 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 2 | 4 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 9 | 1 | |
| | | | |
| FISCHER 344 RATS FEMALE
ANIMAL ID
300 PPM | | 0 | 0 | |
| | | 0 | 0 | |
| | | 5 | 5 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | |
| | | females (cont...) | |

Hyperplasia, Lymphoid

Lymph Node, Mesenteric

Spleen
Fibrosis
Hematopoietic Cell Proliferation

Thymus

INTEGUMENTARY SYSTEM

Mammary Gland
Galactocele
Inflammation, Suppurative

Skin
Ulcer

MUSCULOSKELETAL SYSTEM

Bone

NERVOUS SYSTEM

Brain

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | | | | |
|---|--|-------|--|--|--|
| DAY ON TEST | | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | | | | |
| | | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 8 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 8 | 3 | | | |
| | | 2 | 2 | 2 | 1 | 7 | 6 | 2 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 2 | 4 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 9 | 1 | | | |
| FISCHER 344 RATS FEMALE
ANIMAL ID
300 PPM | | | | | |
| | | 0 | 0 | | | |
| | | 0 | 0 | | | |
| | | 5 | 5 | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | | |
| Compression | | 2 | | | | 3 | | | | | | | | 4 | | | | | | | | | | | | 4 | | | |
| Hemorrhage | | | | | |

females
(cont...)

RESPIRATORY SYSTEM

| | |
|--|---|
| Larynx | + |
| Foreign Body | | | | | | 4 | 4 | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | | | 3 | | | | | | | | | | | | 2 | | | | | |
| Respiratory Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Lung | + |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 2 | | | | | |
| Inflammation, Suppurative |
| Inflammation, Chronic | | 2 | 1 | | | | | | 2 | | | | | | | | | | | | | | | 2 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | | | | | 2 | | | | | | | | |
| Alveolus, Infiltration Cellular, Histocyte | | 1 | 1 | | | | | | 1 | 1 | 1 | | 1 | | 1 | 1 | | | | 1 | 1 | 1 | | 1 |
| Nose | + |
| Foreign Body |
| Inflammation, Suppurative | | | 2 | | | | | | | | | | | | | 3 | | | | | | | | |
| Glands, Dilatation | | | | | | | | 2 | | | | | | | | | | | | | | | | |
| Goblet Cell, Hyperplasia | | | 2 | | | | | | | | | | | | | 2 | | | | | | | | |
| Nasolacrimal Duct, Inflammation, Suppurative | | | | | 2 | | | | | | | | | 3 | | | | | | | | | | 2 |
| Olfactory Epithelium, Degeneration | | 2 | 1 | | | | 1 | | | | | | 1 | | | 1 | | | | | | | | |
| Olfactory Epithelium, Degeneration, Hyaline | | | | | | | | | 2 | | 2 | | | | | | | | 2 | | | 2 | 1 | |
| Olfactory Epithelium, Hyperplasia, Basal | | | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | | | 1 | | | 1 | 1 | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: RATS/F 344

Pathologist: RENNE, R.

Lab: BNW

| | | | | |
|------------------------------------|--|-------------|----------------------|------------------|
| FISCHER 344 RATS FEMALE
300 PPM | | DAY ON TEST | 7
3
2 | 7
3
2 | 7
3
2 | 7
3
1 | 6
4
7 | 6
4
6 | 7
3
2 | 7
3
1 | 7
3
1 | 7
3
2 | 6
8
3 | 7
3
1 | 7
3
2 | 6
1
4 | 7
3
1 | 7
3
2 | 7
3
1 | 7
3
2 | 7
3
1 | 7
3
2 | 7
3
3 | 6
8
9 | 7
3
1 | females
(cont...) | |
| | | | | |
| | | ANIMAL ID | 0
5
0
1 | 0
5
5
2 | 0
5
0
3 | 0
5
0
4 | 0
5
0
5 | 0
5
0
6 | 0
5
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7 | 0
5
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8 | 0
5
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9 | 0
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1 | 0
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2 | 0
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3 | 0
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6 | 0
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5
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0 | 0
5
0
1 | 0
5
0
2 | 0
5
0
3 | | 0
5
0
4 |
| | | | | |
| | | | | |

[illegible]

SPECIAL SENSES SYSTEM

| | |
|----------------------|---|
| | + |
| Eye | + |
| Lens, Cataract | 4 |
| Lens, Mineralization | 4 |
| Harderian Gland | + |

URINARY SYSTEM

| |
|---------------------------------|
| Kidney | + |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | |
| Infiltration Cellular, Lipocyte |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Nephropathy | 2 | 2 | 1 | 1 | | 1 | 3 | | 2 | 2 | 1 | | 2 | 1 | 2 | | 1 | 1 | 2 | | 1 | 1 | 2 | | | 2 |
| Cortex, Infarct, Multiple |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Papilla, Mineralization | | | | 1 | | | | | | | | | | | 1 | | | 1 | | 1 | | 1 | | | | |

2) Mild 4) Marked

| | | |
|--|--|-----------------------|
| DAY ON TEST | | 7
3
2 | 7
3
2 | 7
3
2 | 7
3
1 | 6
4
7 | 6
4
6 | 7
3
2 | 7
3
1 | 7
3
1 | 7
3
2 | 7
3
1 | 6
8
3 | 7
3
1 | 7
3
1 | 7
3
2 | 6
1
4 | 7
3
1 | 7
3
2 | 7
3
1 | 7
3
2 | 7
3
1 | 7
3
2 | 6
8
9 | 7
3
1 | |
| | | |
| | | |
| FISCHER 344 RATS FEMALE
300 PPM | | 0
0
5
0
1 | 0
0
5
0
2 | 0
0
5
0
3 | 0
0
5
0
4 | 0
0
5
0
5 | 0
0
5
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6 | 0
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5
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7 | 0
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8 | 0
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7 | 0
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9 | 0
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5
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0 | 0
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1 | 0
0
5
0
2 | 0
0
5
0
3 | 0
0
5
0
4 | 0
0
5
0
5 |
| | | females
(cont...) | |
| | | |
| | | |
| | | |
| Pelvis, Transitional Epithelium,
Mineralization | | 1 | 1 | 1 | 1 | | 1 | 1 | | 1 | 1 | | 3 | | 1 | | 1 | 1 | 1 | | | | 1 | 1 | | |
| Urinary Bladder | | + |

| | | |
|------------------------------------|-------------|----------|
| FISCHER 344 RATS FEMALE
300 PPM | DAY ON TEST | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | 4 |
| | | 3 | 0 | 3 | 3 | 3 | 3 | 6 | 3 | 0 | 0 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 9 | 3 | 7 | 3 | 3 | 7 |
| | | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 3 | 5 | 6 | 2 | 1 | 1 | 6 | 1 | 1 | 2 | 1 | 5 | 1 | 7 | 2 | 2 | 7 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 5 | 5 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

ALIMENTARY SYSTEM

| | |
|----------------------------|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Jejunum | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | | | | | | | | | 4 | | | | | | | | | | | 2 3.5 |
| Basophilic Focus | | | | X | | | | X | | | | | X | | | | | X | X | | X | | X | X | | 21 |
| Basophilic Focus, Multiple | X | | X | | X | | | | | | | X | | | | | | X | | | | | | | | 10 |
| Clear Cell Focus | | | X | | | | | | | | | | | | | | X | X | | | | | | X | | 6 |
| Clear Cell Focus, Multiple |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Eosinophilic Focus | | | | | | | | | | | | | | | | X | | X | | | | | | | | 2 |
| Hepatodiaphragmatic Nodule | | | | | | | | | 4 | | | 4 | | | | | | 4 | | | | | | | | 6 4.0 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | 4 | | | | | | | | | 1 4.0 |
| Necrosis | | | | | | | | | | | | | 3 | | 2 | 4 | | | | | | | | | | 3 3.0 |
| Thrombosis | | | | | | | | | | | | | | | | | 3 | | | | | | | | | 1 3.0 |
| Vacuolization Cytoplasmic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | | 1 3.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 110

| | | | |
|------------------------------------|--|-----------|----------|
| DAY ON TEST | | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | 4 | |
| | | 3 | 0 | 3 | 3 | 3 | 3 | 6 | 3 | 0 | 0 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 9 | 3 | 7 | 3 | 3 | 7 | |
| | | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 3 | 5 | 6 | 2 | 1 | 1 | 6 | 1 | 1 | 2 | 1 | 5 | 1 | 7 | 2 | 2 | 7 | |
| | | | |
| FISCHER 344 RATS FEMALE
300 PPM | | ANIMAL ID | 0 | |
| | | 0 | 0 | |
| | | 5 | 5 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |

ENDOCRINE SYSTEM

| | |
|---------------------------|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | 2 | | | | | | 2 | | | 10 2.4 |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Vacuolization Cytoplasmic | 1 | | | 2 | | 1 | | | | 2 | 4 | 1 | | | 2 | 1 | 2 | | 2 | | | | | | 18 1.8 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | 2 2.0 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | M | + | + | M | + | + | M | + | + | + | + | + | + | + | + | + | 43 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst | | | | | 4 | | | | | | | | | | 4 | | | | | 3 | | | | | 3 3.7 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Hyperplasia | 4 | | | 4 | | | 3 | | | | | | | | 3 | | | 2 | 2 | | | | | | 8 3.3 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Hyperplasia | | 1 | | | | 1 | | | | | | | | 1 | | | | 3 | | | | 3 | | 1 | 9 2.0 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | 4 | | |
|--|-----------|----------|-----|
| DAY ON TEST | | 3 | 0 | 3 | 3 | 3 | 3 | 6 | 3 | 0 | 0 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 9 | 3 | 7 | 3 | 3 | | |
| | | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 3 | 5 | 6 | 2 | 1 | 1 | 6 | 1 | 1 | 2 | 1 | 5 | 1 | 7 | 2 | 7 | |
| | | | |
| FISCHER 344 RATS FEMALE
300 PPM | ANIMAL ID | 0 | | |
| | | 0 | | |
| | | 5 | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | * TOTALS | |
| Clitoral Gland |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | 4 | | | | | | | 4 | | | | | | 3 | 4.0 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |
| | | | |
| Ovary |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | X | | | 4 | | | 4 | 3 | 4 | | | + | + | + | + | 9 | 3.3 |
| | | | |
| Uterus |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | X | | | | | | | | | | | | | | | 1 | |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Hydrometra |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 3.0 |
| Thrombosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 4.0 |
| Endometrium, Hyperplasia | | | | | | | | | | | | | 3 | | | | | | | | | | | | 4 | 3.0 |
| Endometrium, Inflammation, Suppurative | | | | | | | | | | | | | | | | 4 | | | | | | | | | 1 | 4.0 |

HEMATOPOIETIC SYSTEM

| | |
|-------------------------|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | + | | | | | | | | | | | | | | | | | | 2 |
| Pancreatic, Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Lymph Node, Bronchial | M | M | + | M | M | + | + | M | + | M | M | M | M | + | M | + | M | M | M | M | M | M | M | M | M | 8 |
| Hyperplasia, Lymphoid | | | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Lymph Node, Mandibular | M | M | M | M | M | M | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 1 |
| Lymph Node, Mediastinal | M | M | + | + | + | + | + | M | M | M | + | M | M | + | M | M | M | M | M | + | M | M | M | M | + | 21 |

| | | |
|------------------------------------|-------------|----------|
| FISCHER 344 RATS FEMALE
300 PPM | DAY ON TEST | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | 4 |
| | | 3 | 0 | 3 | 3 | 3 | 3 | 6 | 3 | 0 | 0 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 9 | 3 | 7 | 3 | 3 | 7 |
| | | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 3 | 5 | 6 | 2 | 1 | 1 | 6 | 1 | 1 | 2 | 1 | 5 | 1 | 7 | 2 | 2 | 7 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 5 | 5 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | |
|----------------------------------|-------|
| Hyperplasia, Lymphoid | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Fibrosis | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 3.5 |
| Hematopoietic Cell Proliferation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 3.5 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | M | + | + | + | 48 |

INTEGUMENTARY SYSTEM

| | |
|---------------------------|-------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Galactocoele | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 3.5 |
| Inflammation, Suppurative | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Ulcer | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 3.7 |

MUSCULOSKELETAL SYSTEM

| | |
|------|----|
| Bone | + | 50 |
|------|----|

NERVOUS SYSTEM

| | |
|-------|----|
| Brain | + | 50 |
|-------|----|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 114

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | | | |
|------------------------------------|-------------|---------------------------------------|--|
| FISCHER 344 RATS FEMALE
300 PPM | DAY ON TEST | 7
3
1 | 6
0
0 | 7
3
2 | 7
3
2 | 7
3
1 | 7
3
2 | 5
6
2 | 7
3
1 | 6
0
3 | 7
0
5 | 7
2
6 | 7
3
2 | 7
3
1 | 6
2
6 | 7
3
1 | 7
3
1 | 7
3
2 | 7
3
1 | 4
9
5 | 7
3
1 | 6
7
7 | 7
3
2 | 7
3
2 | 4
7
7 | |
| | | | |
| | ANIMAL ID | 0
0
5
2
6 | 0
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5
2
7 | 0
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5
2
8 | 0
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2
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0
5
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4
6 | 0
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5
4
7 | 0
0
5
4
8 | 0
0
5
4
9 | |
| | * TOTALS | | |
| | Compression | 3 | |
| | Hemorrhage | 3 4 4 3 4 3 1 3 4 3 4 11 3.3
5 3.2 | | |

RESPIRATORY SYSTEM

| | | |
|--|----|--------|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 |
| Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Respiratory Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 2.5 |
| Respiratory Epithelium, Metaplasia, Squamous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Inflammation, Suppurative | | | | | | | | | | 3 | | | | | | | | | | | | | | | | 1 3.0 |
| Inflammation, Chronic | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | 6 1.5 |
| Alveolar Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | | 2 2.5 |
| Alveolus, Infiltration Cellular, Histocyte | 1 | 1 | 1 | 1 | | | 1 | | | 1 | | 1 | | 1 | | | | | 1 | | | | 1 | 1 | | 22 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body | | | X | | | | | | X | | | | | | | | | | X | | | | | | | 3 |
| Inflammation, Suppurative | 2 | | 2 | | | | | | | 1 | | | | | | | | | 2 | | | | | | | 6 2.0 |
| Glands, Dilatation | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 1.5 |
| Goblet Cell, Hyperplasia | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 2.0 |
| Nasolacrimal Duct, Inflammation, Suppurative | | | | | | | | | | | | 2 | | | | | | | | | | | | | | 4 2.3 |
| Olfactory Epithelium, Degeneration | 2 | | | | | | 1 | | | | | | | | | | | | | | | | | | | 7 1.3 |
| Olfactory Epithelium, Degeneration, Hyaline | | | | | | | | | | | | | 2 | | | | | | | | | | | | | 6 1.8 |
| Olfactory Epithelium, Hyperplasia, Basal | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | | 1 | 1 | 1 | | | 1 | | 1 | 1 | | 30 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | | |
|------------------------------------|--|-----------|----------|
| DAY ON TEST | | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | 4 | |
| | | 3 | 0 | 3 | 3 | 3 | 3 | 6 | 3 | 0 | 0 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 9 | 3 | 7 | 3 | 3 | 7 | |
| | | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 3 | 5 | 6 | 2 | 1 | 1 | 6 | 1 | 1 | 2 | 1 | 5 | 1 | 7 | 2 | 2 | 7 | |
| | | | |
| FISCHER 344 RATS FEMALE
300 PPM | | ANIMAL ID | 0 | |
| | | 0 | 0 | |
| | | 5 | 5 | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | * TOTALS |

| | | | | |
|---|----|-----|---|-----|
| Cell | | | | |
| Respiratory Epithelium, Degeneration, Hyaline | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 2 | 1.0 |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 | 2.0 |
| Respiratory Epithelium, Metaplasia, Squamous | | | 2 | 2.0 |
| | | | | |
| Pleura | + | + | + | | | | | | | | | + | | | | | | | | | | | + | 15 | | | |
| Inflammation, Chronic | 1 | 1 | 1 | | | | | | | | | 1 | | | | | | | | | | | 1 | 15 | 1.0 | | |
| | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |

SPECIAL SENSES SYSTEM

| | | |
|----------------------|----|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lens, Cataract | | | | | | | 4 | | | | | | 4 | 3 | | | | | | | | | | | | | 4 | 3.8 |
| Lens, Mineralization | | | | | | | 4 | | | | | | 4 | | | | | | | | | | | | | | 3 | 4.0 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

URINARY SYSTEM

| | | |
|---------------------------------|----|-----|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | |
| Infiltration Cellular, Lipocyte |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 1.0 |
| Nephropathy | | | 1 | 1 | 2 | 1 | 1 | | | | 1 | 1 | 1 | | 1 | 1 | | 1 | 3 | | 2 | | 2 | 2 | 1 | | 35 | 1.5 |
| Cortex, Infarct, Multiple |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | |
| Papilla, Mineralization | | | | 1 | | | | | | 1 | | 1 | | | | | | | | | | | | 1 | | | 8 | 1.0 |

| | | | |
|------------------------------------|--|----------|--------|
| FISCHER 344 RATS FEMALE
300 PPM | DAY ON TEST | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | 4 |
| | | 3 | 0 | 3 | 3 | 3 | 3 | 6 | 3 | 0 | 0 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 9 | 3 | 7 | 3 | 3 | 7 |
| | | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 3 | 5 | 6 | 2 | 1 | 1 | 6 | 1 | 1 | 2 | 1 | 5 | 1 | 7 | 2 | 2 | 7 |
| | | | |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
|  |  | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| | Pelvis, Transitional Epithelium,
Mineralization | 1 | | 1 | 1 | 1 | | | | | | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 31 1.1 |
| | Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

| | | 7 | 7 | 5 | 5 | 7 | 5 | 6 | 7 | 4 | 6 | 6 | 7 | 7 | 5 | 6 | 5 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 6 |
|---|-----------|-------------------|
| DAY ON TEST | | 3 | 3 | 8 | 0 | 0 | 6 | 8 | 1 | 5 | 9 | 8 | 3 | 3 | 8 | 6 | 4 | 5 | 3 | 3 | 2 | 6 | 3 | 3 | 1 | 1 |
| | | 1 | 2 | 1 | 9 | 2 | 9 | 7 | 8 | 8 | 0 | 8 | 1 | 2 | 5 | 8 | 3 | 2 | 1 | 2 | 2 | 8 | 1 | 1 | 0 | 9 |
| | | |
| FISCHER 344 RATS FEMALE

1000 PPM | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 7 | 7 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | females (cont...) | |

ALIMENTARY SYSTEM

| |
|----------------------------------|
| Esophagus | + |
| Intestine Large, Cecum | + | + | A | + |
| Intestine Large, Colon | + | + | A | + |
| Intestine Large, Rectum | + |
| Intestine Small, Duodenum | + | + | A | + |
| Intestine Small, Ileum | + | + | A | + |
| Intestine Small, Jejunum | + | + | A | + |
| Liver | + |
| Angiectasis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 |
| Basophilic Focus | X | | X | X | | | X | | | | | X | | | | | | X | X | X | | | | X | |
| Basophilic Focus, Multiple | | X | | | | | | | | | | | X | | | | | | | | X | X | | | |
| Clear Cell Focus |
| Eosinophilic Focus | | | | | | | | | X | | | | | | | | | | | | | | | | |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | 3 | | | | | | | | | | | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | 4 | 4 | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | 2 | | | | | | | | |
| Mesentery | | | + | | | | | | | | | | | | | + | | | + | | + | | | + | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | FISCHER 344 RATS FEMALE
1000 PPM | | females
(cont...) |
|---|--|-------------------------------------|----------------------|
| DAY ON TEST | | 7
3
1 | 7
3
2 | 5
8
1 | 5
0
9 | 7
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8 | 6
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0 | 6
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2 | 7
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2 | 6
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8 | 7
3
1 | 7
3
1 | 6
1
0 | 6
1
9 | | |
| ANIMAL ID | | 0
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1 | 0
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7
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4 | 0
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7
2
5 | |
| | | 3 | | | | | | | | | | | | 3 | | | | | 3 | | | 3 | | | | | |
| | | + | + | |
| Necrosis | | | |
| Pancreas | | | |
| Salivary Glands | | | |
| Stomach, Forestomach
Hyperplasia, Squamous
Inflammation, Suppurative
Ulcer | | | |
| Stomach, Glandular
Erosion
Hyperplasia | | | |

CARDIOVASCULAR SYSTEM

| | | | |
|--|---|---|---|
| Blood Vessel
Inflammation
Thrombosis | + | 4 | 4 |
| Heart | + | + | + |

ENDOCRINE SYSTEM

| |
|-------------------------------|
| Adrenal Cortex
Hyperplasia | + |
| | | | | | | | 3 | | 4 | | | | | | | | | | | | | 2 | | |

| | | |
|---|--|-----------|
| DAY ON TEST | | 7 | 7 | 5 | 5 | 7 | 5 | 6 | 7 | 4 | 6 | 6 | 7 | 7 | 5 | 6 | 5 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 6 | | |
| | | 3 | 3 | 8 | 0 | 0 | 6 | 8 | 1 | 5 | 9 | 8 | 3 | 3 | 8 | 6 | 4 | 5 | 3 | 3 | 2 | 6 | 3 | 3 | 1 | 1 | | |
| | | 1 | 2 | 1 | 9 | 2 | 9 | 7 | 8 | 8 | 0 | 8 | 1 | 2 | 5 | 8 | 3 | 2 | 1 | 2 | 2 | 8 | 1 | 1 | 0 | 9 | | |
| | | |
| FISCHER 344 RATS FEMALE

1000 PPM | | ANIMAL ID | | 0 | | |
| | | | | 0 | |
| | | | | 7 |
| | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| females (cont...) | | |

| |
|------------------------------|
| Hypertrophy | | | | | | 2 | |
| Thrombosis | | | | | | | | | | | | | | | | 3 | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | | | | | 2 | | 2 | | 2 | | | | | 2 | | 2 | | | 2 | | | | |
| Adrenal Medulla | + |
| Hyperplasia | | | | | | | | | | | | | 2 | | | | | | | | | | | | | |
| Islets, Pancreatic | + |
| Parathyroid Gland | + |
| Pituitary Gland | + |
| Cyst | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | 4 | | | | | | | | | | | | | | | |
| Hyperplasia | 4 | | | | | | 2 | 3 | | | | | | | 4 | | 3 | | | 4 | 4 | | | 3 | | |
| Thyroid Gland | + |
| C-cell, Hyperplasia | | | | | | | | 1 | | | | | | | | 2 | | | | | | | | | | |
| Follicle, Cyst |
| Follicular Cell, Hyperplasia | | | | | | | | | | | 4 | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| |
|----------------|
| Clitoral Gland | + |
| Hyperplasia | 3 | | |

| | | | |
|--|--|-----------------------|--|
| DAY ON TEST | | 7
3
1 | 7
3
2 | 5
8
1 | 5
0
9 | 7
0
2 | 5
6
9 | 6
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7 | 4
5
8 | 6
9
0 | 6
8
8 | 7
3
1 | 7
3
2 | 5
8
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8 | 5
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5
2 | 7
3
2 | 7
3
2 | 6
6
8 | 7
3
1 | 7
3
1 | 6
1
0 | 6
1
9 | |
| | | | |
| | | | |
| FISCHER 344 RATS FEMALE
1000 PPM
ANIMAL ID | | 0
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3 | 0
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2
4 | 0
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7
2
5 | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | females
(cont...) | | |

| |
|-----------------------------------|
| Ovary | + |
| Cyst | 4 | | | | | | | | | | | | | | | | | | 3 | | | | | | 4 | 4 |
| Uterus | + |
| Hemorrhage | 4 |
| Thrombosis | | | | | | | | | | | | | | | | | | | 4 | | | | | | | |
| Endometrium, Hyperplasia | 3 | |
| Vagina |
| Infiltration Cellular, Mixed Cell | |

HEMATOPOIETIC SYSTEM

| | |
|--|---|
| Bone Marrow | + |
| Lymph Node
Inflammation, Chronic Active | | | | | | + | | | | | | | | | + | | | | | + | | | | | + |
| Lymph Node, Bronchial
Hemorrhage | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | + | M | M | M | M | M |
| Lymph Node, Mandibular | M |
| Lymph Node, Mediastinal
Pigmentation | + | + | M | M | + | + | + | + | M | M | M | M | M | M | + | M | M | M | + | + | M | M | + | + | + |

| | | DAY ON TEST | | females
(cont...) | | |
|-------------------------------------|-----------|----------------------|-------------|---|
| | | 7
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1 | 7
3
2 | 5
8
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0
9 | 7
0
2 | 5
6
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7 | 7
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2 | 7
2
2 | 6
6
8 | 7
3
1 | 7
3
1 | 6
1
0 | | 6
1
9 | |
| | | | | | |
| FISCHER 344 RATS FEMALE
1000 PPM | ANIMAL ID | 0 | | 0 | 0 |
| | | 0 | | 0 | 0 |
| | | 7 | 7 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | |
| Lymph Node, Mesenteric | | + | | |
| Spleen | | + | | |
| Fibrosis | | | | | | 4 | | | |
| Hematopoietic Cell Proliferation | | | | | | | | | | 4 | | 4 | | | | | | | | | 4 | | | | | | | |
| Pigmentation | | | | | | | | | | | | | | | 4 | | | | | | | | | | | | | |
| Thymus | | + | | |

INTEGUMENTARY SYSTEM

| |
|---------------------------------|
| Mammary Gland | + |
| Galactoceles |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | |
| Duct, Cyst |
| Skin | + |
| Inflammation, Chronic |
| Ulcer |
| Subcutaneous Tissue, Hemorrhage | | | | | | | | | | | | 4 | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| |
|------|
| Bone | + |
|------|

NERVOUS SYSTEM

| |
|--|
| |
|--|

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Page 122

| | |
|-------------------------------------|-----------|
| DAY ON TEST | | 7 | 7 | 5 | 5 | 7 | 5 | 6 | 7 | 4 | 6 | 6 | 7 | 7 | 5 | 6 | 5 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 6 |
| | | 3 | 3 | 8 | 0 | 0 | 6 | 8 | 1 | 5 | 9 | 8 | 3 | 3 | 8 | 6 | 4 | 5 | 3 | 3 | 2 | 6 | 3 | 3 | 1 | 1 |
| | | 1 | 2 | 1 | 9 | 2 | 9 | 7 | 8 | 8 | 0 | 8 | 1 | 2 | 5 | 8 | 3 | 2 | 1 | 2 | 2 | 8 | 1 | 1 | 0 | 9 |
| | |
| FISCHER 344 RATS FEMALE
1000 PPM | ANIMAL ID | 0 |
| | | 0 |
| | | 7 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |
| females (cont...) | |

females
(cont...)

| |
|-------------|
| Brain | + |
| Compression | |
| Hemorrhage | | | | 3 | | | | | | | | 4 | | | 4 | | | | | | | | | | |

RESPIRATORY SYSTEM

| | |
|--|---|
| Larynx | + |
| Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | 4 | |
| Inflammation, Chronic | | | | | 1 | | | | | | | | | | | | | | | 2 | | | 2 | |
| Epiglottis, Metaplasia, Squamous | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| Lung | + |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 |
| Inflammation, Chronic | | | | | 2 | | | | | | | | 2 | 2 | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | 4 | | | | | | | | | | | 4 | | | | |
| Alveolus, Infiltration Cellular, Histiocyte | 1 | 1 | | 1 | 1 | 2 | 1 | | | 1 | 1 | 1 | 1 | 1 | | | 1 | | 1 | | 1 | | | 1 |
| Bronchiole, Hyperplasia |
| Interstitial, Fibrosis |
| Nose | + |
| Foreign Body | | | | | X | | | X | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | 3 | | | | | | | | 2 | | | | | | | 2 | | | | |
| Inflammation, Chronic |
| Goblet Cell, Hyperplasia | | | | | 2 | | | | | | | | | | | | | | | | | | | 1 |
| Nasolacrimal Duct, Inflammation, Suppurative | | | | | 2 | | | | | | | | 3 | | | | | | | | | | | |
| Olfactory Epithelium, Degeneration | | | | 1 | 3 | | 1 | 1 | | 1 | | | | | 1 | | 1 | 1 | 1 | 1 | | | 1 | |
| Olfactory Epithelium, Degeneration, Hyaline | | | 2 | | | | | | | 1 | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | 7
3
1 | 7
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|---|--|-----------------------|
| DAY ON TEST | | |
| FISCHER 344 RATS FEMALE | | 0
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5 |
| ANIMAL ID | | |
| 1000 PPM | | |
| | | females
(cont...) | |
| Olfactory Epithelium, Hyperplasia, Basal Cell | | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 2 | 1 |
| Olfactory Epithelium, Metaplasia | | |
| Respiratory Epithelium, Hyperplasia | | 2 | |
| Respiratory Epithelium, Metaplasia, Squamous | | 1 | |
| Pleura | | + | + | + | | + | + | + | | | | + | + | + | + | | | + | | + | + | + | | | | + |
| Inflammation, Chronic | | 1 | 1 | | | 1 | | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | | 1 | 1 | 1 | | | | 1 |
| Mesothelium, Hyperplasia | | |
| Trachea | | + |
| SPECIAL SENSES SYSTEM | | |
| Eye | | + |
| Atrophy | | 4 | |
| Anterior Chamber, Hemorrhage | | |
| Lens, Cataract | | 4 | |
| Retina, Atrophy | | 3 | |
| Harderian Gland | | + |
| URINARY SYSTEM | | |
| Kidney | | + |
| Nephropathy | | 1 | 1 | 1 | | | | 1 | | | 2 | 2 | 1 | 1 | 1 | 2 | | | | 1 | | | 1 | 2 | | |
| Cortex, Infarct | | X | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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| | | 7
3
1 | 7
3
2 | 5
8
1 | 5
0
9 | 7
0
2 | 5
6
9 | 6
8
7 | 7
1
8 | 4
5
8 | 6
9
0 | 6
8
8 | 7
3
1 | 7
3
2 | 5
8
5 | 6
6
8 | 5
4
3 | 6
5
2 | 7
3
1 | 7
3
2 | 6
2
8 | 7
3
1 | 7
3
1 | 6
1
0 | 6
1
9 | females
(cont...) | | | |
|---|-----------|----------------------|---|--|--|
| DAY ON TEST | | | | | |
| FISCHER 344 RATS FEMALE
1000 PPM | ANIMAL ID | 0 | | 0 | | |
| | | 0 | | 0 | | |
| | | 7 | | 7 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | | | |
| Papilla, Mineralization | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | | | |
| Pelvis, Transitional Epithelium, Mineralization | | | | | | 1 | 1 | | | | | 1 | | | | | | | | | 1 | 1 | | | | | | | |
| Renal Tubule, Pigmentation | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | |
| Urinary Bladder | | + | | | |
| Transitional Epithelium, Hyperplasia | | | 3 | | | |

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | DAY ON TEST | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
|-------------------------|-------------|----------|
| | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 |
| | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 | 1 |
| FISCHER 344 RATS FEMALE | | 0 | 0 |
| 1000 PPM | | 0 | 0 |
| ANIMAL ID | | 7 | 7 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

ALIMENTARY SYSTEM

| | |
|----------------------------------|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | 47 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 48 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Basophilic Focus | | X | X | | | | | X | | X | X | X | | | X | X | | X | | X | X | X | | | | 21 |
| Basophilic Focus, Multiple | | | | | X | X | X | | | | | | | | | | X | | | | | | | | | 8 |
| Clear Cell Focus | | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Eosinophilic Focus |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Hematopoietic Cell Proliferation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Hepatodiaphragmatic Nodule | 4 | | 4 | | | | | | | | | | | | 4 | 4 | | | | | 4 | | | | | 7 4.0 |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 2.0 |
| Mesentery | | + | + | + | | | | + | | | | | | + | | | | | | | | | | | | 10 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | DAY ON TEST | | | | |
|-------------------------------------|-----------|-------------|----|---|-----|-----|
| | | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | | |
| | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 | | |
| | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 | 1 | | |
| | | | | | | |
| FISCHER 344 RATS FEMALE
1000 PPM | ANIMAL ID | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 7 | 7 | 7 | | |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | |
| | | * TOTALS | | | | |
| Necrosis | | 3 | | | 3 | 3 | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 10 | | | 3.0 |
| Pancreas | | + | + | + | 50 | |
| Salivary Glands | | + | + | + | 50 | |
| Stomach, Forestomach | | + | + | + | 50 | |
| Hyperplasia, Squamous | | | | | 2 | | | 2 | 2.0 |
| Inflammation, Suppurative | | | | | | | | | | | 2 | | | | | | | | | | | | | | | 1 | 2.0 | |
| Ulcer | | 4 | | 4 | 2 | 4.0 |
| Stomach, Glandular | | + | + | + | 50 | |
| Erosion | | 2 | | | 2 | 2.0 |
| Hyperplasia | | | | | | | | | | | 2 | | | | | | | | | | | | | | | 1 | 2.0 | |

CARDIOVASCULAR SYSTEM

| | | | |
|--------------|--|--|-------|
| Blood Vessel |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Inflammation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Thrombosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Heart | | + 50 | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|--|--|--|--|---|--|--|--|--|--|---|--|--|--|--|--|---|--|--|--|--|--|---|--|--|-------|
| Adrenal Cortex | | + 50 | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | 4 | | | 3 | | | | | | 2 | | | | | | 4 | | | | | | 3 | | | 8 3.1 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
x .. Lesion present
l .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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| | | |
|-------------------------------------|-------------|----------|
| FISCHER 344 RATS FEMALE
1000 PPM | DAY ON TEST | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
| | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 |
| | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 | 1 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 7 | 7 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | | |
|------------------------------|--|--------|
| Hypertrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 2 2.5 |
| Thrombosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |
| Vacuolization Cytoplasmic | | 4 | | | | | | 2 | 2 | 3 | | | | 2 | | | | 2 | | | | | | | | | 12 2.3 |
| Adrenal Medulla |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | 3 | | | | | | | | | 4 | | | | | | | | | | | | | 3 3.0 |
| Islets, Pancreatic |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pituitary Gland |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | 2 2.0 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Hyperplasia | | 4 | | | 4 | | | 4 | | | | | | | | | | | | | 4 | 4 | 4 | | | | 14 3.6 |
| Thyroid Gland |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Hyperplasia | | 2 | | | | | 1 | | | | | | | | 1 | | | | 2 | | | | | | | | 6 1.5 |
| Follicle, Cyst | | | | | | | | | 3 | | | | | | | | | | | | | | | | | | 1 3.0 |
| Follicular Cell, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | | | 2 2.5 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | |
|----------------|-------|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | 4 | | | 4 | | | | | | | | | | | | | | | | | 4 | | | | | 4 3.8 |

| | | |
|-------------------------------------|-------------|----------|
| FISCHER 344 RATS FEMALE
1000 PPM | DAY ON TEST | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
| | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 |
| | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 | 1 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 7 | 7 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | |
|-----------------------------------|-------|
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst | | 4 | | | | 3 | | | | 3 | 4 | | | | | | | | | | | | | | | 8 3.6 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | | 2 4.0 |
| Thrombosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Endometrium, Hyperplasia | 2 | | | | | 1 | 1 | | | | | 3 | | | | | | | | | | | | | | 5 2.0 |
| Vagina | | | | | | | | | | | | | + | | | | | | | | | | | | | 1 |
| Infiltration Cellular, Mixed Cell | | | | | | | | | | | | 3 | | | | | | | | | | | | | | 1 3.0 |

HEMATOPOIETIC SYSTEM

| | |
|------------------------------|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 |
| Inflammation, Chronic Active |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Lymph Node, Bronchial | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | + | + | M | M | M | 3 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | | | 1 3.0 |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | + | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 1 |
| Lymph Node, Mediastinal | + | + | + | M | + | M | M | + | M | + | + | M | + | + | M | + | M | + | M | + | M | + | + | + | + | 28 |
| Pigmentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 3.0 |

| | | | | |
|-------------------------------------|--|-------------|--|---|
| FISCHER 344 RATS FEMALE
1000 PPM | | DAY ON TEST | | 6 | 7 | |
| | | | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 |
| | | | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 |
| FISCHER 344 RATS FEMALE
1000 PPM | | ANIMAL ID | | 0 | |
| | | | | 0 | |
| | | | | 7 | |
| | | | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | * TOTALS | | |

| | |
|----------------------------------|-------|
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Fibrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Hematopoietic Cell Proliferation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 4.0 |
| Pigmentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Thymus | + | + | + | + | + | + | + | + | M | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 48 |

INTEGUMENTARY SYSTEM

| | |
|---------------------------------|-------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Galactoceles | | | | | | | | | | | | | | 4 | | | | | | | | | | | | 1 4.0 |
| Necrosis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |
| Duct, Cyst |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | 1 4.0 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation, Chronic | | | | | | | | | | | | | | 3 | | | | | | | | | | | | 1 3.0 |
| Ulcer | | | | | | | | | | | | | | 3 | | | | | | | | | | | | 1 3.0 |
| Subcutaneous Tissue, Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 4.0 |

MUSCULOSKELETAL SYSTEM

| | |
|------|----|
| Bone | + | 50 |
|------|----|

NERVOUS SYSTEM

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-METHYLSTYRENE

CAS Number: 98-83-9

Pathologist: RENNE, R.

Date Report Requested: 02/02/2006

Time Report Requested: 13:44:41

First Dose M/F: 08/06/01 / 08/06/01

Lab: BNW

| | DAY ON TEST | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
|-------------------------|-------------|----------|-----|
| | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 |
| | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 | 1 |
| FISCHER 344 RATS FEMALE | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1000 PPM | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID |  | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| Brain |  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Compression | | | | | | | 3 | | 2 | | | | | | 4 | 4 | | | | | | | | | 4 | 8 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4.0 |

RESPIRATORY SYSTEM

| | |
|--|----|
| Larynx | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Foreign Body | | | | | | | 4 | | | | | | | | | | | | | | | | | | | 3 |
| Inflammation, Chronic | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 4 |
| Epiglottis, Metaplasia, Squamous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Respiratory Epithelium, Hyperplasia | | | | | | | 3 | | | | | | | | | | | | | | | | | | | 2 |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Inflammation, Chronic | | | | | | | | | | | | 1 | | | | | | | | 2 | | | | | | 5 |
| Alveolar Epithelium, Hyperplasia | 2 | 4 | | | | | | | | | | | | | | | | | 2 | | | | | | | 5 |
| Alveolus, Infiltration Cellular, Histiocyte | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | | 1 | 1 | | | 1 | | 1 | | 1 | 1 | 1 | | | 30 |
| Bronchiole, Hyperplasia | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 1 |
| Interstitial, Fibrosis | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Foreign Body |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Inflammation, Suppurative | | | | 2 | | | | 1 | | | 2 | | | | | | | | | | | | | | | 6 |
| Inflammation, Chronic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | | | | | 1 |
| Goblet Cell, Hyperplasia | | | | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 |
| Nasolacrimal Duct, Inflammation, Suppurative |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Olfactory Epithelium, Degeneration | 1 | | | | 1 | 1 | | | 1 | | 1 | | | | 1 | 1 | 1 | | 1 | 1 | | | 1 | 1 | 1 | 24 |
| Olfactory Epithelium, Degeneration, Hyaline | | | | | | | | | 2 | | 2 | | | | | | | | | | | | | | | 4 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| | | |
|-------------------------------------|-------------|----------|
| | DAY ON TEST | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
| | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 |
| | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 | 1 |
| FISCHER 344 RATS FEMALE
1000 PPM | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
| | | 7 | 7 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |

| | | |
|---|----|-----|
| Olfactory Epithelium, Hyperplasia, Basal Cell | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | | 2 | 2 | 1 | 2 | 49 | 1.6 |
| Olfactory Epithelium, Metaplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | | | | | 1 | 3.0 |
| Respiratory Epithelium, Hyperplasia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2.0 |
| Respiratory Epithelium, Metaplasia, Squamous | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 2 | 1.5 |
| Pleura | + | + | + | + | + | + | + | | + | | | | + | | | + | + | | + | | + | + | + | | | 30 | |
| Inflammation, Chronic | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | 1 | | | 1 | 1 | | 1 | | 2 | 1 | 1 | | | 27 | 1.0 |
| Mesothelium, Hyperplasia | | | | | | | | 4 | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

SPECIAL SENSES SYSTEM

| | | |
|------------------------------|----|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | 2 | 4.0 |
| Anterior Chamber, Hemorrhage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | | | | | 1 | 4.0 |
| Lens, Cataract | | | | | | | | | | | 3 | | 4 | | | | | | | | 3 | | | | | 5 | 3.4 |
| Retina, Atrophy | | | | | | | | | | | | | 3 | | | | | | | | | | | | | 2 | 3.5 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

URINARY SYSTEM

| | | | |
|-----------------|----|----|-----|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Nephropathy | | 1 | | 4 | | 3 | 2 | 2 | | 3 | 4 | 1 | 3 | | 2 | 2 | 2 | 2 | 3 | | 1 | 1 | | 3 | 1 | 31 | 1.8 |
| Cortex, Infarct |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | |

| | | | |
|-------------------------------------|---|----------|--------|
| FISCHER 344 RATS FEMALE
1000 PPM | DAY ON TEST | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 |
| | | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 0 |
| | | 8 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 0 | 2 | 1 | 2 | 2 | 1 |
| | ANIMAL ID | 0 | 0 |
| | | 0 | 0 |
|  |  | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | |
| | Papilla, Mineralization | 1 | | | | | | | | | | | | | 1 | | | | | | | | 1 | 1 | 1 | 7 1.0 |
| | Pelvis, Transitional Epithelium, Mineralization | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | 1 | | | | | 1 | | 1 | 1 | | | | | 16 1.0 |
| | Renal Tubule, Pigmentation | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 4.0 |
| | Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | Transitional Epithelium, Hyperplasia | | | | | | | | 2 | | | | | | | | | | | | | | | | | 2 2.5 |

*** END OF REPORT ***