

**TDMS No.** 88006 - 03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

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

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

ALPHA-METHYLSTYRENE

**CAS Number:** 98-83-9

**Pathologist:** RENNE, R.

Revised F1

**Date Report Requested:** 02/02/2006

**Time Report Requested:** 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

Test Type: CHRONIC

ALPHA-METHYLSTYRENE

Time Report Requested: 13:44:41

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 98-83-9

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

Species/Strain: RATS/F 344

Pathologist: RENNE, R.

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	100 PPM	300 PPM	1000 PPM
<b>Disposition Summary</b>				
Animals Initially in Study	50	50	50	50
Early Deaths				
Accidentally Killed			1	1
Moribund Sacrifice	19	15	21	25
Natural Death	4	3	5	2
Survivors				
Natural Death				1
Terminal Sacrifice	27	32	23	21
Animals Examined Microscopically	50	50	50	50
<b>ALIMENTARY SYSTEM</b>				
Intestine Large, Cecum	(48)	(47)	(46)	(47)
Ulcer		1 (2%)		
Epithelium, Atrophy		1 (2%)		
Intestine Small, Duodenum	(49)	(48)	(47)	(47)
Ulcer		1 (2%)		
Intestine Small, Jejunum	(46)	(47)	(44)	(47)
Inflammation, Chronic Active		1 (2%)		
Epithelium, Ulcer		1 (2%)		
Liver	(50)	(50)	(50)	(50)
Angiectasis		1 (2%)	1 (2%)	4 (8%)
Basophilic Focus	2 (4%)	8 (16%)	3 (6%)	1 (2%)
Basophilic Focus, Multiple		1 (2%)		
Bile Stasis		1 (2%)		
Clear Cell Focus	8 (16%)	7 (14%)	5 (10%)	3 (6%)
Clear Cell Focus, Multiple	1 (2%)			
Degeneration, Cystic	2 (4%)	2 (4%)	3 (6%)	1 (2%)
Hemorrhage				1 (2%)
Hepatodiaphragmatic Nodule		2 (4%)	5 (10%)	10 (20%)
Necrosis	2 (4%)	2 (4%)	3 (6%)	4 (8%)
Thrombosis		1 (2%)	1 (2%)	1 (2%)
Vacuolization Cytoplasmic	3 (6%)	1 (2%)	4 (8%)	
Bile Duct, Dilatation		2 (4%)		
Bile Duct, Hyperplasia	30 (60%)	42 (84%)	39 (78%)	30 (60%)
Mesentery	(15)	(15)	(8)	(5)
Necrosis	15 (100%)	14 (93%)	8 (100%)	5 (100%)

FISCHER 344 RATS MALE	CONTROL	100 PPM	300 PPM	1000 PPM
Fat, Hemorrhage		1 (7%)		
Oral Mucosa	(1)	(0)	(0)	(1)
Gingival, Hyperplasia, Squamous, Focal	1 (100%)			1 (100%)
Pancreas	(50)	(50)	(50)	(50)
Acinus, Atrophy	2 (4%)	2 (4%)	1 (2%)	
Stomach, Forestomach	(50)	(50)	(49)	(50)
Hyperplasia, Squamous	1 (2%)		1 (2%)	1 (2%)
Inflammation, Suppurative				1 (2%)
Necrosis	1 (2%)			
Ulcer	4 (8%)	1 (2%)	2 (4%)	
Epithelium, Mineralization		1 (2%)		
Stomach, Glandular	(50)	(50)	(49)	(50)
Erosion	2 (4%)		2 (4%)	3 (6%)
Ulcer	1 (2%)			
Epithelium, Mineralization		1 (2%)		
Tongue	(0)	(1)	(0)	(1)
Epithelium, Hyperplasia				1 (100%)
Tooth	(0)	(0)	(2)	(0)
Inflammation, Suppurative			1 (50%)	
Peridontal Tissue, Inflammation			1 (50%)	
<b>CARDIOVASCULAR SYSTEM</b>				
Blood Vessel	(0)	(1)	(2)	(0)
Pulmonary Artery, Infiltration Cellular, Polymorphonuclear			1 (50%)	
Pulmonary Artery, Mineralization			1 (50%)	
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	7 (14%)	3 (6%)	4 (8%)	6 (12%)
Atrium, Myocardium, Hypertrophy		1 (2%)		
Atrium, Necrosis				1 (2%)
Atrium, Thrombosis	3 (6%)	1 (2%)	5 (10%)	5 (10%)
Myocardium, Hypertrophy		1 (2%)		
Valve, Thrombosis	1 (2%)			
<b>ENDOCRINE SYSTEM</b>				
Adrenal Cortex	(50)	(50)	(50)	(50)
Atrophy	1 (2%)	1 (2%)		
Hyperplasia	14 (28%)	10 (20%)	12 (24%)	9 (18%)

FISCHER 344 RATS MALE	CONTROL	100 PPM	300 PPM	1000 PPM
Hypertrophy	2 (4%)	2 (4%)		
Mineralization	1 (2%)			
Necrosis			1 (2%)	
Vacuolization Cytoplasmic	9 (18%)	21 (42%)	10 (20%)	5 (10%)
Adrenal Medulla	(50)	(50)	(50)	(50)
Atrophy	1 (2%)			
Hyperplasia	15 (30%)	13 (26%)	9 (18%)	14 (28%)
Islets, Pancreatic	(50)	(50)	(50)	(50)
Hyperplasia	1 (2%)	3 (6%)		
Parathyroid Gland	(47)	(49)	(48)	(47)
Hyperplasia	1 (2%)		1 (2%)	
Pituitary Gland	(49)	(49)	(49)	(49)
Cyst		1 (2%)	1 (2%)	1 (2%)
Hemorrhage		1 (2%)		
Hyperplasia	9 (18%)	8 (16%)	6 (12%)	14 (29%)
Thyroid Gland	(49)	(50)	(50)	(50)
Cyst				1 (2%)
C-cell, Hyperplasia	8 (16%)	9 (18%)	9 (18%)	6 (12%)
Follicle, Cyst				1 (2%)
Follicular Cell, Hyperplasia		3 (6%)	1 (2%)	2 (4%)
<b>GENERAL BODY SYSTEM</b>				
Peritoneum	(0)	(2)	(0)	(3)
<b>GENITAL SYSTEM</b>				
Epididymis	(50)	(50)	(50)	(50)
Penis	(1)	(0)	(0)	(0)
Inflammation, Chronic Active	1 (100%)			
Preputial Gland	(50)	(50)	(50)	(50)
Cyst	1 (2%)	2 (4%)	2 (4%)	1 (2%)
Hyperplasia	2 (4%)	4 (8%)	1 (2%)	2 (4%)
Inflammation, Suppurative			1 (2%)	
Prostate	(50)	(50)	(50)	(50)
Cyst			1 (2%)	
Hyperplasia	6 (12%)		1 (2%)	2 (4%)
Inflammation, Suppurative	34 (68%)	35 (70%)	31 (62%)	24 (48%)
Seminal Vesicle	(50)	(50)	(50)	(50)
Cyst			1 (2%)	

FISCHER 344 RATS MALE	CONTROL	100 PPM	300 PPM	1000 PPM
Dilatation			1 (2%)	
Inflammation, Suppurative		1 (2%)	1 (2%)	
Testes	(50)	(50)	(50)	(50)
Artery, Inflammation, Chronic Active			1 (2%)	
Germinal Epithelium, Atrophy	5 (10%)	5 (10%)	8 (16%)	6 (12%)
Germinal Epithelium, Mineralization		1 (2%)		
Interstitial Cell, Hyperplasia	6 (12%)	7 (14%)	10 (20%)	7 (14%)
<b>HEMATOPOIETIC SYSTEM</b>				
Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(6)	(3)	(6)	(12)
Deep Cervical, Hemorrhage				1 (8%)
Lymph Node, Bronchial	(10)	(8)	(14)	(15)
Hyperplasia, Histiocytic			1 (7%)	
Infiltration Cellular, Histiocyte			1 (7%)	
Lymph Node, Mediastinal	(17)	(25)	(20)	(18)
Angiectasis	1 (6%)		1 (5%)	
Hemorrhage		1 (4%)		
Hyperplasia, Lymphoid		2 (8%)		1 (6%)
Infiltration Cellular, Histiocyte			1 (5%)	
Pigmentation			1 (5%)	1 (6%)
Lymph Node, Mesenteric	(50)	(49)	(49)	(50)
Spleen	(50)	(50)	(49)	(50)
Accessory Spleen	1 (2%)		1 (2%)	1 (2%)
Fibrosis	2 (4%)	1 (2%)	1 (2%)	1 (2%)
Hematopoietic Cell Proliferation	1 (2%)	1 (2%)		
Hemorrhage		1 (2%)		2 (4%)
Hyperplasia, Lymphoid		1 (2%)		1 (2%)
Necrosis	3 (6%)	3 (6%)	5 (10%)	8 (16%)
Thymus	(42)	(49)	(47)	(47)
Cyst		1 (2%)		
Inflammation			1 (2%)	
Thrombosis			1 (2%)	
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(48)	(49)	(50)	(50)
Galactocele	2 (4%)	1 (2%)	3 (6%)	2 (4%)
Hyperplasia		1 (2%)		

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Pathologist: RENNE, R.

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	100 PPM	300 PPM	1000 PPM
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	2 (4%)	3 (6%)		
Hyperkeratosis		2 (4%)	1 (2%)	2 (4%)
Hyperplasia, Squamous		1 (2%)		
Inflammation, Chronic		1 (2%)	1 (2%)	
Ulcer	1 (2%)	2 (4%)	2 (4%)	3 (6%)
Subcutaneous Tissue, Metaplasia, Osseous			1 (2%)	
Subcutaneous Tissue, Mineralization	1 (2%)			
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)
Hyperostosis	1 (2%)			
Maxilla, Fracture			1 (2%)	
Skeletal Muscle	(2)	(1)	(1)	(0)
<b>NERVOUS SYSTEM</b>				
Brain	(50)	(50)	(50)	(50)
Compression	11 (22%)	11 (22%)	8 (16%)	2 (4%)
Gliosis				1 (2%)
Hemorrhage	7 (14%)	2 (4%)	4 (8%)	2 (4%)
Cerebrum, Demyelination, Focal				1 (2%)
Cerebrum, Necrosis, Focal	1 (2%)			
Choroid Plexus, Hemorrhage			1 (2%)	
Meninges, Hemorrhage				1 (2%)
<b>RESPIRATORY SYSTEM</b>				
Larynx	(50)	(49)	(50)	(50)
Foreign Body	4 (8%)	5 (10%)	2 (4%)	5 (10%)
Inflammation, Suppurative	6 (12%)		4 (8%)	2 (4%)
Inflammation, Chronic	4 (8%)	11 (22%)	6 (12%)	10 (20%)
Epiglottis, Hyperplasia				1 (2%)
Respiratory Epithelium, Hyperplasia		2 (4%)		
Respiratory Epithelium, Metaplasia, Squamous	1 (2%)			
Lung	(50)	(50)	(50)	(50)

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Species/Strain: RATS/F 344

Pathologist: RENNE, R.

Lab: BNW

FISCHER 344 RATS MALE	CONTROL	100 PPM	300 PPM	1000 PPM
Hemorrhage	7 (14%)	3 (6%)	1 (2%)	7 (14%)
Inflammation, Suppurative			1 (2%)	
Inflammation, Chronic	4 (8%)	1 (2%)	3 (6%)	2 (4%)
Thrombosis	1 (2%)			
Alveolar Epithelium, Degeneration, Mucoid, Focal			1 (2%)	
Alveolar Epithelium, Hyperplasia	3 (6%)	6 (12%)	6 (12%)	3 (6%)
Alveolus, Emphysema		2 (4%)	1 (2%)	
Alveolus, Infiltration Cellular, Histiocyte	11 (22%)	12 (24%)	10 (20%)	4 (8%)
Interstitialium, Fibrosis	3 (6%)		2 (4%)	1 (2%)
Mediastinum, Inflammation, Suppurative			1 (2%)	
Nose	(50)	(50)	(50)	(49)
Foreign Body	6 (12%)	4 (8%)	3 (6%)	2 (4%)
Hemorrhage			1 (2%)	
Inflammation, Suppurative	10 (20%)	8 (16%)	7 (14%)	5 (10%)
Inflammation, Chronic		1 (2%)	2 (4%)	
Glands, Dilatation	3 (6%)	7 (14%)	6 (12%)	
Goblet Cell, Hyperplasia	5 (10%)	5 (10%)	5 (10%)	5 (10%)
Nasolacrimal Duct, Inflammation, Suppurative	2 (4%)	1 (2%)	1 (2%)	
Nerve, Olfactory Epithelium, Degeneration				1 (2%)
Olfactory Epithelium, Degeneration	1 (2%)	3 (6%)	3 (6%)	16 (33%)
Olfactory Epithelium, Degeneration, Hyaline	1 (2%)	1 (2%)	1 (2%)	
Olfactory Epithelium, Hyperplasia, Basal Cell		17 (34%)	18 (36%)	43 (88%)
Olfactory Epithelium, Metaplasia	2 (4%)	1 (2%)	3 (6%)	2 (4%)
Respiratory Epithelium, Degeneration, Hyaline	2 (4%)		2 (4%)	
Respiratory Epithelium, Hyperplasia		1 (2%)		2 (4%)
Respiratory Epithelium, Metaplasia, Squamous				1 (2%)
Pleura	(6)	(5)	(6)	(5)
Inflammation, Chronic	5 (83%)	5 (100%)	6 (100%)	5 (100%)
Mesothelium, Hyperplasia		1 (20%)		
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(49)	(49)	(50)	(49)
Atrophy			1 (2%)	1 (2%)

FISCHER 344 RATS MALE	CONTROL	100 PPM	300 PPM	1000 PPM
Cornea, Fibrosis				1 (2%)
Cornea, Hyperplasia, Squamous		1 (2%)		1 (2%)
Cornea, Mineralization	1 (2%)			
Lens, Cataract	3 (6%)		5 (10%)	1 (2%)
Retina, Atrophy	1 (2%)		1 (2%)	
Sclera, Metaplasia, Osseous	32 (65%)	32 (65%)	32 (64%)	25 (51%)
Harderian Gland	(50)	(50)	(50)	(50)
Inflammation, Chronic			2 (4%)	
Zymbal's Gland	(0)	(1)	(2)	(2)
Inflammation			1 (50%)	
<b>URINARY SYSTEM</b>				
Kidney	(50)	(50)	(50)	(50)
Cyst	2 (4%)	2 (4%)	2 (4%)	
Infarct	3 (6%)			5 (10%)
Nephropathy	41 (82%)	46 (92%)	46 (92%)	45 (90%)
Thrombosis				1 (2%)
Bilateral, Pelvis, Dilatation		1 (2%)	1 (2%)	
Bilateral, Infarct				1 (2%)
Bilateral, Infarct, Multiple				1 (2%)
Cortex, Renal Tubule, Accumulation, Hyaline Droplet			1 (2%)	1 (2%)
Glomerulus, Fibrosis	1 (2%)			
Papilla, Mineralization	12 (24%)	16 (32%)	10 (20%)	33 (66%)
Pelvis, Transitional Epithelium, Hyperplasia	1 (2%)	2 (4%)	1 (2%)	1 (2%)
Pelvis, Transitional Epithelium, Mineralization	1 (2%)			
Pelvis, Dilatation		1 (2%)	1 (2%)	
Pelvis, Hemorrhage			1 (2%)	
Renal Tubule, Casts		1 (2%)		
Renal Tubule, Mineralization		1 (2%)		
Urinary Bladder	(50)	(50)	(50)	(50)
Calculus Micro Observation Only	2 (4%)	1 (2%)	1 (2%)	1 (2%)
Cyst			1 (2%)	
Hemorrhage	1 (2%)	2 (4%)	2 (4%)	1 (2%)
Inflammation, Suppurative	1 (2%)			
Inflammation, Chronic		1 (2%)		
Necrosis			2 (4%)	
Transitional Epithelium, Hyperplasia	1 (2%)	2 (4%)	1 (2%)	2 (4%)



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CAS Number: 98-83-9

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**FISCHER 344 RATS MALE**

**CONTROL**

**100 PPM**

**300 PPM**

**1000 PPM**

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

FISCHER 344 RATS FEMALE	CONTROL	100 PPM	300 PPM	1000 PPM
<b>Disposition Summary</b>				
Animals Initially in Study	50	50	50	50
Early Deaths				
Accidentally Killed	2			
Moribund Sacrifice	15	21	12	20
Natural Death	6	5	2	4
Survivors				
Terminal Sacrifice	27	24	36	26
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Intestine Large, Rectum	(49)	(48)	(50)	(50)
Intestine Small, Ileum	(45)	(46)	(48)	(47)
Necrosis		1 (2%)		
Intestine Small, Jejunum	(45)	(46)	(48)	(48)
Diverticulum		2 (4%)		
Liver	(50)	(50)	(50)	(50)
Angiectasis	3 (6%)	1 (2%)	2 (4%)	1 (2%)
Basophilic Focus	21 (42%)	23 (46%)	21 (42%)	21 (42%)
Basophilic Focus, Multiple	5 (10%)	5 (10%)	10 (20%)	8 (16%)
Clear Cell Focus	6 (12%)	6 (12%)	6 (12%)	2 (4%)
Clear Cell Focus, Multiple	3 (6%)		1 (2%)	
Eosinophilic Focus	1 (2%)		2 (4%)	1 (2%)
Hematopoietic Cell Proliferation				1 (2%)
Hepatodiaphragmatic Nodule	2 (4%)	6 (12%)	6 (12%)	7 (14%)
Inflammation, Suppurative			1 (2%)	
Necrosis	2 (4%)	1 (2%)	3 (6%)	1 (2%)
Thrombosis	1 (2%)		1 (2%)	
Vacuolization Cytoplasmic	8 (16%)	5 (10%)	1 (2%)	
Bile Duct, Bile Stasis	1 (2%)			
Bile Duct, Hyperplasia			2 (4%)	
Hepatocyte, Regeneration			1 (2%)	
Serosa, Fibrosis			1 (2%)	
Mesentery	(14)	(17)	(12)	(10)
Necrosis	14 (100%)	17 (100%)	12 (100%)	10 (100%)
Oral Mucosa	(1)	(0)	(1)	(0)
Inflammation, Suppurative	1 (100%)			

FISCHER 344 RATS FEMALE	CONTROL	100 PPM	300 PPM	1000 PPM
Pancreas	(50)	(50)	(50)	(50)
Acinus, Atrophy	1 (2%)			
Duct, Cyst		1 (2%)		
Stomach, Forestomach	(50)	(50)	(50)	(50)
Diverticulum		1 (2%)		
Hyperplasia, Squamous		4 (8%)	2 (4%)	2 (4%)
Inflammation, Suppurative				1 (2%)
Ulcer	5 (10%)	5 (10%)	3 (6%)	2 (4%)
Epithelium, Muscularis, Inflammation, Suppurative		1 (2%)		
Stomach, Glandular	(49)	(50)	(50)	(50)
Erosion	2 (4%)			2 (4%)
Hyperplasia				1 (2%)
Ulcer		1 (2%)	1 (2%)	
Tongue	(0)	(1)	(2)	(0)
Epithelium, Hyperplasia		1 (100%)	1 (50%)	
<b>CARDIOVASCULAR SYSTEM</b>				
Blood Vessel	(0)	(1)	(0)	(1)
Infiltration Cellular, Polymorphonuclear		1 (100%)		
Inflammation				1 (100%)
Thrombosis				1 (100%)
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy			1 (2%)	
Atrium, Thrombosis	1 (2%)	1 (2%)		
<b>ENDOCRINE SYSTEM</b>				
Adrenal Cortex	(50)	(50)	(50)	(50)
Angiectasis	3 (6%)			
Hyperplasia	7 (14%)	5 (10%)	10 (20%)	8 (16%)
Hypertrophy		1 (2%)		2 (4%)
Necrosis	1 (2%)	1 (2%)	1 (2%)	
Thrombosis				1 (2%)
Vacuolization Cytoplasmic	18 (36%)	18 (36%)	18 (36%)	12 (24%)
Adrenal Medulla	(49)	(50)	(50)	(50)
Hemorrhage		1 (2%)		
Hyperplasia			2 (4%)	3 (6%)
Islets, Pancreatic	(50)	(50)	(50)	(50)

FISCHER 344 RATS FEMALE	CONTROL	100 PPM	300 PPM	1000 PPM
Pituitary Gland	(50)	(49)	(50)	(50)
Cyst	4 (8%)	5 (10%)	3 (6%)	2 (4%)
Hemorrhage	2 (4%)		1 (2%)	1 (2%)
Hyperplasia	7 (14%)	8 (16%)	8 (16%)	14 (28%)
Thyroid Gland	(50)	(50)	(50)	(50)
C-cell, Hyperplasia	8 (16%)	5 (10%)	9 (18%)	6 (12%)
Follicle, Cyst				1 (2%)
Follicular Cell, Hyperplasia				2 (4%)
<b>GENERAL BODY SYSTEM</b>				
None				
<b>GENITAL SYSTEM</b>				
Clitoral Gland	(50)	(50)	(50)	(50)
Cyst	2 (4%)			
Hyperplasia	7 (14%)	6 (12%)	3 (6%)	4 (8%)
Inflammation, Chronic	2 (4%)		1 (2%)	
Ovary	(50)	(50)	(50)	(50)
Atrophy	1 (2%)			
Cyst	9 (18%)	2 (4%)	9 (18%)	8 (16%)
Uterus	(50)	(50)	(50)	(50)
Cyst			1 (2%)	
Hemorrhage	1 (2%)	1 (2%)	1 (2%)	2 (4%)
Hydrometra			1 (2%)	
Necrosis	1 (2%)			
Thrombosis			1 (2%)	1 (2%)
Cervix, Myometrium, Hyperplasia	2 (4%)			
Endometrium, Hyperplasia	6 (12%)	3 (6%)	4 (8%)	5 (10%)
Endometrium, Inflammation, Suppurative			1 (2%)	
Myometrium, Hyperplasia		1 (2%)		
Vagina	(0)	(1)	(0)	(1)
Infiltration Cellular, Mixed Cell				1 (100%)
<b>HEMATOPOIETIC SYSTEM</b>				
Lymph Node	(2)	(3)	(2)	(5)
Inflammation, Chronic Active				1 (20%)

Test Type: CHRONIC

ALPHA-METHYLSTYRENE

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Species/Strain: RATS/F 344

Pathologist: RENNE, R.

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	100 PPM	300 PPM	1000 PPM
Pancreatic, Hemorrhage			1 (50%)	
Lymph Node, Bronchial	(4)	(7)	(8)	(3)
Angiectasis	1 (25%)			
Congestion	1 (25%)			
Hemorrhage				1 (33%)
Hyperplasia, Lymphoid	1 (25%)	1 (14%)	1 (13%)	
Lymph Node, Mandibular	(3)	(0)	(1)	(1)
Lymph Node, Mediastinal	(26)	(25)	(21)	(28)
Hyperplasia, Lymphoid			1 (5%)	
Pigmentation				1 (4%)
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Congestion	1 (2%)			
Spleen	(50)	(50)	(50)	(50)
Accessory Spleen		1 (2%)		
Fibrosis	1 (2%)		2 (4%)	1 (2%)
Hematopoietic Cell Proliferation	2 (4%)	2 (4%)	2 (4%)	3 (6%)
Pigmentation				1 (2%)
Thymus	(50)	(48)	(48)	(48)
Cyst		1 (2%)		
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(50)	(50)	(50)	(50)
Galactocele	2 (4%)	3 (6%)	4 (8%)	1 (2%)
Inflammation, Suppurative		1 (2%)	1 (2%)	
Necrosis				1 (2%)
Duct, Cyst				1 (2%)
Epithelium, Hyperplasia	1 (2%)			
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion		1 (2%)		
Hyperkeratosis	1 (2%)	1 (2%)		
Inflammation, Chronic				1 (2%)
Ulcer		1 (2%)	3 (6%)	1 (2%)
Subcutaneous Tissue, Hemorrhage				1 (2%)
Subcutaneous Tissue, Inflammation, Granulomatous		1 (2%)		
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)

Test Type: CHRONIC

ALPHA-METHYLSTYRENE

Time Report Requested: 13:44:41

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 98-83-9

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

Species/Strain: RATS/F 344

Pathologist: RENNE, R.

Lab: BNW

FISCHER 344 RATS FEMALE	CONTROL	100 PPM	300 PPM	1000 PPM
Maxilla, Fracture	1 (2%)			
Skeletal Muscle	(2)	(1)	(0)	(0)
Infiltration Cellular, Lipocyte	1 (50%)			
<b>NERVOUS SYSTEM</b>				
Brain	(50)	(50)	(50)	(50)
Compression	7 (14%)	7 (14%)	11 (22%)	8 (16%)
Hemorrhage	6 (12%)	4 (8%)	5 (10%)	1 (2%)
Cerebellum, Hydrocephalus		1 (2%)		
Cerebrum, Infiltration Cellular, Mononuclear Cell, Focal	1 (2%)			
<b>RESPIRATORY SYSTEM</b>				
Larynx	(50)	(50)	(50)	(50)
Foreign Body	1 (2%)	1 (2%)	2 (4%)	3 (6%)
Inflammation, Suppurative	2 (4%)		1 (2%)	
Inflammation, Chronic	1 (2%)	1 (2%)		4 (8%)
Epiglottis, Metaplasia, Squamous	1 (2%)			1 (2%)
Respiratory Epithelium, Hyperplasia	1 (2%)	1 (2%)	2 (4%)	2 (4%)
Respiratory Epithelium, Metaplasia, Squamous			1 (2%)	
Lung	(50)	(50)	(50)	(50)
Hemorrhage	1 (2%)		1 (2%)	1 (2%)
Infiltration Cellular, Polymorphonuclear		1 (2%)		
Inflammation, Suppurative			1 (2%)	
Inflammation, Granulomatous		1 (2%)		
Inflammation, Chronic	5 (10%)	1 (2%)	6 (12%)	5 (10%)
Alveolar Epithelium, Hyperplasia	3 (6%)	6 (12%)	2 (4%)	5 (10%)
Alveolar Epithelium, Metaplasia, Squamous	1 (2%)			
Alveolus, Infiltration Cellular, Histiocyte	20 (40%)	19 (38%)	22 (44%)	30 (60%)
Bronchiole, Foreign Body		1 (2%)		
Bronchiole, Hyperplasia	1 (2%)			1 (2%)
Bronchiole, Inflammation, Chronic		1 (2%)		
Interstitial, Fibrosis				1 (2%)
Nose	(49)	(49)	(50)	(50)
Foreign Body	1 (2%)	2 (4%)	3 (6%)	2 (4%)
Inflammation, Suppurative	2 (4%)	5 (10%)	6 (12%)	6 (12%)

FISCHER 344 RATS FEMALE	CONTROL	100 PPM	300 PPM	1000 PPM
Inflammation, Chronic				1 (2%)
Glands, Dilatation			2 (4%)	
Goblet Cell, Hyperplasia	1 (2%)	1 (2%)	3 (6%)	3 (6%)
Nasolacrimal Duct, Inflammation, Suppurative	1 (2%)	1 (2%)	4 (8%)	2 (4%)
Olfactory Epithelium, Degeneration	1 (2%)	1 (2%)	7 (14%)	24 (48%)
Olfactory Epithelium, Degeneration, Hyaline	4 (8%)	8 (16%)	6 (12%)	4 (8%)
Olfactory Epithelium, Hyperplasia, Basal Cell		14 (29%)	30 (60%)	49 (98%)
Olfactory Epithelium, Metaplasia	1 (2%)			1 (2%)
Respiratory Epithelium, Degeneration, Hyaline	1 (2%)	3 (6%)	2 (4%)	
Respiratory Epithelium, Hyperplasia		1 (2%)	1 (2%)	1 (2%)
Respiratory Epithelium, Metaplasia, Squamous	1 (2%)		2 (4%)	2 (4%)
Pleura	(16)	(13)	(15)	(30)
Inflammation, Chronic	16 (100%)	13 (100%)	15 (100%)	27 (90%)
Mesothelium, Hyperplasia				1 (3%)
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(48)	(49)	(50)	(50)
Atrophy				2 (4%)
Inflammation, Suppurative	1 (2%)			
Anterior Chamber, Hemorrhage				1 (2%)
Lens, Cataract	5 (10%)	1 (2%)	4 (8%)	5 (10%)
Lens, Mineralization			3 (6%)	
Retina, Atrophy	2 (4%)			2 (4%)
Sclera, Metaplasia, Osseous		1 (2%)		
<b>URINARY SYSTEM</b>				
Kidney	(49)	(50)	(50)	(50)
Cyst			1 (2%)	
Infiltration Cellular, Lipocyte			1 (2%)	
Nephropathy	34 (69%)	27 (54%)	35 (70%)	31 (62%)
Capsule, Hemorrhage		1 (2%)		
Cortex, Infarct		1 (2%)		1 (2%)
Cortex, Infarct, Multiple			1 (2%)	

TDMS No. 88006 - 03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

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

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	100 PPM	300 PPM	1000 PPM
Papilla, Mineralization	1 (2%)	6 (12%)	8 (16%)	7 (14%)
Pelvis, Transitional Epithelium, Hyperplasia	5 (10%)	3 (6%)		
Pelvis, Transitional Epithelium, Mineralization	31 (63%)	26 (52%)	31 (62%)	16 (32%)
Pelvis, Dilatation		1 (2%)		
Renal Tubule, Degeneration	1 (2%)			
Renal Tubule, Pigmentation				2 (4%)
Ureter	(1)	(0)	(0)	(0)
Transitional Epithelium, Hyperplasia	1 (100%)			
Urinary Bladder	(50)	(50)	(50)	(50)
Serosa, Edema		1 (2%)		
Transitional Epithelium, Hyperplasia		1 (2%)		2 (4%)

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