F1_RE

NTP Study Number:	C20523
Lock Date:	06/04/2012
Cage Range:	ALL
Date Range:	ALL
Reasons For Removal:	ALL
Removal Date Range:	ALL
Treatment Groups:	Include ALL
Study Gender:	Both
TDMSE Version:	3.0.2.2_002
PWG Approval Date:	NONE

Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Disposition Summary				
Animals Initially In Study	**50**	**50**	**50**	**50**
Early Deaths				
Moribund Sacrifice	**12**	**10**	**14**	**15**
Natural Death	**2**	**1**	**3**	**1**
Survivors				
Terminal Sacrifice	**36**	**39**	**33**	**34**
Animals Examined Microscopically	**50**	**50**	**50**	**50**
ALIMENTARY SYSTEM				
Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(50)	(50)	(50)	(50)
Inflammation	1 [3.0]			1 [1.0]
Artery, Inflammation	1 [1.0]			
Lymphoid Tissue, Hyperplasia				1 [1.0]
Intestine Large, Colon	(50)	(50)	(50)	(50)
Lymphoid Tissue, Hyperplasia			1 [2.0]	
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Intestine Small, Duodenum	(50)	(50)	(50)	(50)
Artery, Inflammation	1 [1.0]			
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Intestine Small, Jejunum	(50)	(50)	(50)	(50)
Liver	(50)	(50)	(50)	(50)
Angiectasis	5 [1.0]	2 [1.0]		4 [1.0]
Basophilic Focus	5	10	15	9
Clear Cell Focus	14	23	17	23
Eosinophilic Focus	2			2
Fatty Change			1 [1.0]	1 [2.0]
Hepatodiaphragmatic Nodule	1	2		1
Infiltration Cellular, Lymphocyte		1 [2.0]		
Inflammation, Granulomatous		1 [1.0]		2 [1.0]
Mixed Cell Focus		1	2	1
Bile Duct, Cyst			2 [1.5]	1 [2.0]
Bile Duct, Dilatation	1 [4.0]			2 [4.0]

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Bile Duct, Hyperplasia	2 [1.0]	2 [1.0]	1 [1.0]	1 [1.0]
Serosa, Fibrosis			1 [1.0]	
Mesentery	(2)	(2)	(3)	(5)
Fat, Hemorrhage			1 [1.0]	
Fat, Necrosis	2 [1.0]	2 [2.5]	2 [1.0]	4 [2.0]
Pancreas	(50)	(50)	(50)	(50)
Inflammation	1 [1.0]	1 [2.0]		
Acinus, Atrophy	7 [1.1]	2 [1.5]	9 [1.4]	2 [1.0]
Acinus, Hyperplasia			1 [2.0]	
Artery, Inflammation	1 [1.0]			
Salivary Glands	(50)	(50)	(50)	(50)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Cyst	1 [2.0]			
Inflammation	1 [2.0]			
Stomach, Glandular	(50)	(50)	(50)	(50)
Mineralization				1 [2.0]
Artery, Inflammation	1 [1.0]			
CARDIOVASCULAR SYSTEM				
Blood Vessel	(50)	(50)	(50)	(50)
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	21 [1.3]	17 [1.2]	22 [1.1]	18 [1.3]
Endocardium, Hyperplasia			2 [2.5]	
ENDOCRINE SYSTEM				
Adrenal Cortex	(50)	(50)	(50)	(50)
Angiectasis	4 [1.0]	1 [1.0]	1 [2.0]	3 [1.0]
Hypertrophy	13 [1.4]	18 [1.4]	13 [1.2]	15 [1.2]
Necrosis	2 [2.0]			
Thrombosis			1 [2.0]	
Vacuolization Cytoplasmic	19 [1.1]	23 [1.0]	21 [1.0]	21 [1.0]
Adrenal Medulla	(50)	(50)	(49)	(49)
Hyperplasia	1 [1.0]	1 [1.0]		1 [1.0]

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Islets, Pancreatic	(50)	(50)	(50)	(50)
Parathyroid Gland	(39)	(44)	(46)	(49)
Fibrosis	1 [1.0]			
Hyperplasia		1 [1.0]	1 [2.0]	
Pituitary Gland	(50)	(50)	(50)	(50)
Angiectasis	1 [1.0]			
Cyst	2 [1.0]	2 [1.0]	4 [1.3]	1 [1.0]
Pars Distalis, Hyperplasia	12 [1.1]	15 [1.1]	8 [1.3]	11 [1.5]
Pars Intermedia, Hyperplasia			3 [1.3]	
Thyroid Gland	(50)	(50)	(50)	(50)
C-cell, Hyperplasia	36 [1.3]	39 [1.6]	34 [1.4]	40 [1.4]
Follicle, Hyperplasia	4 [1.5]	7 [2.0]	4 [1.0]	1 [1.0]
GENERAL BODY SYSTEM				
None				
GENITAL SYSTEM				
Epididymis	(50)	(50)	(50)	(50)
Granuloma Sperm		1 [2.0]		
Preputial Gland	(49)	(50)	(50)	(50)
Cyst	1 [2.0]			
Fibrosis				1 [1.0]
Inflammation	17 [1.2]	13 [1.1]	11 [1.3]	16 [1.3]
Prostate	(50)	(50)	(50)	(50)
Atrophy		1 [1.0]		
Fibrosis		1 [1.0]		
Inflammation	17 [1.4]	12 [1.1]	10 [1.5]	10 [1.0]
Seminal Vesicle	(50)	(50)	(50)	(50)
Atrophy				1 [2.0]
Fibrosis	1 [2.0]			
Inflammation	4 [2.0]		1 [2.0]	
Testes	(50)	(50)	(50)	(50)
Cyst				1 [2.0]

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Edema	3 [2.0]	2 [2.0]	1 [2.0]	2 [3.0]
Artery, Inflammation, Chronic	3 [2.3]			1 [2.0]
Germinal Epithelium, Atrophy	3 [2.0]	8 [2.1]		6 [2.2]
Germinal Epithelium, Hypoplasia			1 [3.0]	
Interstitial Cell, Hyperplasia	2 [2.0]			1 [1.0]
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(11)	(7)	(7)	(8)
Axillary, Hyperplasia, Plasma Cell		1 [3.0]		
Iliac, Hyperplasia, Plasma Cell	1 [3.0]	2 [3.0]	4 [3.0]	1 [4.0]
Lumbar, Hyperplasia, Lymphoid				1 [1.0]
Lumbar, Hyperplasia, Plasma Cell	7 [2.3]	5 [2.4]	3 [3.3]	4 [2.5]
Renal, Hyperplasia, Plasma Cell	2 [2.5]			2 [2.5]
Lymph Node, Bronchial	(39)	(43)	(42)	(42)
Hyperplasia, Lymphohistiocytic		17 [1.4]	29 [1.8]	35 [1.9]
Lymph Node, Mandibular	(46)	(46)	(46)	(48)
Hyperplasia, Plasma Cell	1 [1.0]	1 [3.0]		
Lymph Node, Mediastinal	(43)	(48)	(44)	(43)
Congestion				1 [2.0]
Hyperplasia, Lymphohistiocytic		20 [1.5]	22 [1.9]	32 [2.5]
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Hemorrhage			1 [2.0]	
Hyperplasia, Lymphohistiocytic				1 [3.0]
Spleen	(50)	(50)	(50)	(50)
Congestion			1 [2.0]	
Cyst		1 [2.0]		
Hematopoietic Cell Proliferation	7 [1.1]	9 [1.0]	8 [1.1]	8 [1.3]
Hemorrhage		1 [3.0]		
Lymphoid Follicle, Atrophy	3 [2.0]		2 [1.0]	
Thymus	(48)	(49)	(50)	(50)
Atrophy	35 [1.9]	36 [2.1]	26 [1.7]	26 [1.9]
Cyst			1 [2.0]	

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
INTEGUMENTARY SYSTEM				
Mammary Gland	(4)	(5)	(1)	(2)
Galactocele	1 [3.0]			
Hyperplasia	1 [1.0]			
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	2	2	1	1
Hyperkeratosis	1 [4.0]			
Inflammation	2 [2.0]	1 [2.0]		4 [2.0]
Ulcer	16 [2.0]	14 [2.0]	13 [2.1]	13 [2.0]
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Hyperostosis				1 [1.0]
Skeletal Muscle	(4)	(4)	(8)	(3)
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Compression	8 [2.8]	6 [2.3]	8 [3.6]	7 [3.0]
Degeneration	1 [2.0]			
Gliosis	1 [2.0]			
Hemorrhage	1 [2.0]			
Hydrocephalus	5 [2.6]	3 [2.7]	8 [2.5]	4 [2.5]
Necrosis			1 [2.0]	
Meninges, Inflammation	1 [1.0]			
Peripheral Nerve	(4)	(2)	(8)	(2)
Axon, Degeneration			2 [1.0]	
Spinal Cord	(4)	(2)	(7)	(2)
RESPIRATORY SYSTEM				
Larynx	(50)	(50)	(50)	(50)

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Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Foreign Body	1		1	
Infiltration Cellular, Mixed Cell	1 [1.0]	9 [1.1]	27 [1.0]	31 [1.1]
Inflammation, Chronic Active	1 [1.0]	1 [1.0]		
Epiglottis, Hyperplasia, Squamous		26 [1.1]	48 [1.8]	50 [2.4]
Epiglottis, Metaplasia, Squamous	3 [1.0]	50 [1.4]	50 [2.1]	50 [2.6]
Lung	(50)	(50)	(50)	(50)
Fibrosis	4 [1.0]	43 [1.0]	45 [1.4]	49 [1.3]
Foreign Body			1	
Hyperplasia, Lymphohistiocytic		1 [1.0]	1 [1.0]	
Infiltration Cellular, Histiocyte	14 [1.0]	50 [1.4]	50 [2.0]	50 [2.6]
Inflammation, Chronic Active	7 [1.0]	46 [1.0]	46 [2.0]	48 [3.0]
Alveolar/bronchiolar Epithelium, Hyperplasia	4 [1.0]	22 [1.0]	39 [1.2]	46 [1.8]
Alveolar Epithelium, Hyperplasia	11 [1.2]	43 [1.3]	45 [1.5]	49 [2.1]
Alveolar Epithelium, Metaplasia, Squamous				5 [1.4]
Alveolus, Proteinosis		1 [1.0]	31 [1.2]	45 [2.2]
Bronchus-associated Lymphoid Tissue, Hyperplasia, Lymphohistiocytic		1 [1.0]	4 [1.3]	6 [1.0]
Mediastinum, Inflammation, Chronic		1 [2.0]		
Nose	(50)	(50)	(50)	(50)
Foreign Body	1		1	1
Inflammation, Suppurative	7 [1.1]	46 [1.2]	47 [1.3]	46 [1.1]
Glands, Olfactory Epithelium, Hyperplasia		43 [1.5]	41 [1.6]	49 [1.9]
Goblet Cell, Hyperplasia	5 [1.4]	36 [1.0]	37 [1.1]	42 [1.2]
Goblet Cell, Nasolacrimal Duct, Metaplasia		1 [2.0]		
Goblet Cell, Olfactory Epithelium, Hyperplasia			1 [2.0]	
Nasolacrimal Duct, Inflammation, Chronic		1 [1.0]		
Nasolacrimal Duct, Metaplasia, Squamous		1 [2.0]		
Olfactory Epithelium, Accumulation, Hyaline Droplet	20 [1.4]	50 [2.8]	50 [2.9]	50 [3.2]
Olfactory Epithelium, Atrophy		1 [1.0]	1 [1.0]	
Olfactory Epithelium, Metaplasia, Squamous		1 [2.0]		1 [1.0]
Respiratory Epithelium, Accumulation, Hyaline Droplet	10 [1.2]	50 [1.4]	48 [1.4]	50 [1.6]
Respiratory Epithelium, Hyperplasia	2 [1.0]	7 [1.0]	7 [1.0]	19 [1.1]
Transitional Epithelium, Hyperplasia	7 [1.3]	7 [1.0]	8 [1.4]	13 [1.5]
Transitional Epithelium, Metaplasia, Squamous	2 [1.0]	2 [1.0]	3 [1.0]	6 [1.0]
Trachea	(50)	(50)	(50)	(50)

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
SPECIAL SENSES SYSTEM				
Eye	(50)	(50)	(50)	(50)
Cataract			1 [3.0]	1 [2.0]
Inflammation			1 [3.0]	
Retina, Atrophy	5 [2.0]	5 [2.0]	1 [3.0]	3 [2.0]
Harderian Gland	(50)	(50)	(50)	(50)
Cyst		1 [1.0]		
Hyperplasia	1 [1.0]	1 [1.0]		1 [1.0]
Inflammation	1 [1.0]	1 [1.0]	1 [1.0]	2 [1.0]
Lacrimal Gland	(1)	(0)	(0)	(1)
Atrophy	1 [2.0]			1 [2.0]
Zymbal's Gland	(1)	(0)	(0)	(0)
URINARY SYSTEM				
Kidney	(50)	(50)	(50)	(50)
Cyst			1 [1.0]	
Hydronephrosis	1 [2.0]		1 [2.0]	3 [2.0]
Infarct		1 [2.0]	2 [1.0]	
Inflammation, Granulomatous				1 [3.0]
Metaplasia, Lipocyte			1 [1.0]	1 [1.0]
Necrosis		1 [1.0]		
Nephropathy	27 [1.7]	31 [1.3]	27 [1.4]	28 [1.3]
Pelvis, Inflammation	19 [1.2]	17 [1.2]	5 [1.2]	9 [1.4]
Renal Tubule, Cyst		1 [1.0]	1 [1.0]	
Renal Tubule, Hyperplasia			1 [3.0]	
Urinary Bladder	(50)	(50)	(50)	(50)
Hemorrhage			1 [2.0]	
Inflammation		1 [2.0]	1 [1.0]	
Transitional Epithelium, Hyperplasia			1 [1.0]	

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3

*** END OF MALE ***

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Disposition Summary				
Animals Initially In Study	**50**	**50**	**50**	**50**
Early Deaths				
Moribund Sacrifice	**19**	**15**	**15**	**16**
Natural Death	**1**	**2**	**2**	**4**
Survivors				
Moribund Sacrifice	**1**	**1**		
Terminal Sacrifice	**29**	**32**	**33**	**30**
Animals Examined Microscopically	**50**	**50**	**50**	**50**
ALIMENTARY SYSTEM				
Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(50)	(50)	(50)	(50)
Intestine Large, Colon	(50)	(50)	(50)	(50)
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Intestine Small, Duodenum	(50)	(50)	(50)	(50)
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Intestine Small, Jejunum	(50)	(50)	(50)	(50)
Liver	(50)	(50)	(50)	(50)
Angiectasis		4 [1.0]	1 [1.0]	
Basophilic Focus	21	30	24	25
Clear Cell Focus	6	16	4	8
Eosinophilic Focus	2	3		2
Fatty Change	2 [1.5]		3 [2.0]	
Fibrosis		1 [1.0]		
Hematopoietic Cell Proliferation	1 [3.0]			
Hepatodiaphragmatic Nodule			1	1 [2.0]
Inflammation, Granulomatous	1 [1.0]	3 [1.0]		2 [1.0]
Mixed Cell Focus	3	5		
Necrosis			1 [4.0]	
Bile Duct, Cyst			2 [2.0]	1 [2.0]
Bile Duct, Dilatation		1 [4.0]	1 [3.0]	
Bile Duct, Hyperplasia	2 [1.0]	8 [1.1]	6 [1.0]	4 [1.0]
Centrilobular, Degeneration	1 [2.0]			

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Serosa, Fibrosis				1 [1.0]
Sinusoid, Dilatation	1 [2.0]			
Mesentery	(4)	(5)	(9)	(4)
Fat, Necrosis	4 [2.0]	4 [1.3]	7 [1.4]	4 [1.3]
Pancreas	(50)	(50)	(50)	(50)
Hyperplasia	1 [2.0]			
Acinus, Atrophy	4 [1.5]	2 [1.0]	2 [1.5]	1 [2.0]
Salivary Glands	(50)	(50)	(50)	(50)
Sublingual Gland, Inflammation		1 [2.0]		
Stomach, Forestomach	(50)	(50)	(50)	(50)
Inflammation	2 [1.0]			
Epithelium, Hyperplasia	2 [2.0]			
Stomach, Glandular	(50)	(50)	(50)	(50)
Tongue	(0)	(0)	(0)	(1)
Hyperkeratosis				1 [1.0]
CARDIOVASCULAR SYSTEM				
Blood Vessel	(50)	(50)	(50)	(50)
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	7 [1.0]	7 [1.0]	8 [1.4]	1 [2.0]
ENDOCRINE SYSTEM				
Adrenal Cortex	(50)	(50)	(50)	(50)
Angiectasis	28 [1.4]	25 [1.4]	28 [1.3]	27 [1.6]
Hematopoietic Cell Proliferation	3 [2.0]			
Hyperplasia		1 [1.0]		1 [1.0]
Hypertrophy	10 [1.4]	5 [1.6]	15 [1.5]	10 [1.2]
Necrosis			2 [3.0]	1 [3.0]
Vacuolization Cytoplasmic	9 [1.3]	8 [1.4]	14 [1.1]	11 [1.0]
Zona Fasciculata, Atrophy		1 [2.0]		
Adrenal Medulla	(50)	(50)	(50)	(49)
Hyperplasia	3 [1.0]	1 [1.0]		1 [2.0]
Islets, Pancreatic	(50)	(50)	(50)	(50)

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Hyperplasia	1 [4.0]			
Parathyroid Gland	(42)	(43)	(47)	(47)
Fibrosis		2 [1.5]	1 [1.0]	
Hyperplasia	1 [2.0]			
Pituitary Gland	(50)	(50)	(50)	(50)
Angiectasis				1 [1.0]
Cyst		1 [1.0]		
Pars Distalis, Hyperplasia	4 [2.3]	13 [1.7]	12 [1.8]	16 [1.6]
Pars Intermedia, Hyperplasia		1 [1.0]		
Thyroid Gland	(49)	(50)	(50)	(50)
C-cell, Hyperplasia	40 [1.4]	44 [1.8]	45 [1.7]	42 [1.5]
Follicle, Hyperplasia	2 [1.0]	4 [1.8]	7 [1.1]	3 [2.7]
GENERAL BODY SYSTEM				
None				
GENITAL SYSTEM				
Clitoral Gland	(50)	(48)	(49)	(50)
Cyst				2 [1.5]
Fibrosis	1 [2.0]			
Inflammation	11 [1.2]	12 [1.3]	13 [1.4]	12 [1.3]
Ovary	(50)	(50)	(50)	(50)
Cyst	9 [2.0]	10 [1.4]	12 [1.5]	10 [1.4]
Uterus	(50)	(50)	(50)	(50)
Inflammation, Suppurative	1 [3.0]			
Thrombosis				1 [3.0]
Cervix, Hyperplasia		1 [1.0]		
Endometrium, Hyperplasia, Cystic	12 [1.5]	11 [1.5]	12 [1.3]	10 [1.3]
Epithelium, Metaplasia, Squamous				1 [4.0]
Vagina	(1)	(0)	(0)	(0)

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(4)	(1)	(2)	(1)
Lumbar, Hyperplasia, Plasma Cell	3 [2.7]			
Popliteal, Hyperplasia, Plasma Cell	1 [4.0]			
Renal, Hyperplasia, Plasma Cell	1 [3.0]			
Lymph Node, Bronchial	(37)	(37)	(44)	(36)
Hematopoietic Cell Proliferation	1 [3.0]			
Hyperplasia, Lymphohistiocytic	1 [1.0]	18 [1.3]	37 [1.6]	31 [1.8]
Hyperplasia, Plasma Cell	1 [2.0]			
Lymph Node, Mandibular	(40)	(46)	(47)	(50)
Hematopoietic Cell Proliferation	1 [2.0]			
Hyperplasia, Plasma Cell				1 [3.0]
Lymph Node, Mediastinal	(46)	(49)	(46)	(45)
Hematopoietic Cell Proliferation	1 [3.0]			
Hyperplasia, Lymphohistiocytic		11 [1.3]	14 [1.6]	28 [2.2]
Hyperplasia, Plasma Cell	5 [2.2]		1 [2.0]	1 [4.0]
Pigmentation, Hemosiderin				1 [2.0]
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Hyperplasia, Plasma Cell				1 [3.0]
Spleen	(50)	(50)	(50)	(50)
Cyst				1 [1.0]
Hematopoietic Cell Proliferation	13 [1.7]	7 [1.3]	11 [1.2]	9 [1.2]
Lymphoid Follicle, Atrophy	2 [2.0]	2 [1.0]	6 [1.3]	7 [2.1]
Thymus	(48)	(49)	(49)	(49)
Atrophy	14 [2.2]	12 [2.3]	21 [2.3]	15 [1.9]
Cyst		1 [1.0]	2 [2.0]	
Ectopic Thyroid	1 [1.0]			
Hyperplasia, Lymphohistiocytic			1 [2.0]	
INTEGUMENTARY SYSTEM				
Mammary Gland	(50)	(50)	(50)	(50)
Hyperplasia	3 [1.7]		4 [1.5]	3 [2.0]

a - Number of animals examined microscopically at site and number of animals with lesion
b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Wistar Han RATS FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Duct, Cyst	4 [2.0]	7 [1.1]	6 [1.7]	2 [2.0]
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	1		1 [2.0]	
Inflammation		1 [1.0]	1 [2.0]	1 [2.0]
Ulcer	6 [2.0]		3 [2.3]	2 [2.0]
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Osteopetrosis	1 [4.0]			
Joint, Inflammation	1 [2.0]			
Skeletal Muscle	(4)	(3)	(3)	(4)
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Compression	17 [2.8]	16 [3.4]	21 [2.6]	17 [2.9]
Degeneration	1 [1.0]			
Hydrocephalus	6 [2.5]	9 [2.3]	4 [3.0]	8 [2.4]
Peripheral Nerve	(4)	(3)	(2)	(3)
Spinal Cord	(4)	(3)	(2)	(3)
RESPIRATORY SYSTEM				
Larynx	(50)	(50)	(50)	(50)
Infiltration Cellular, Mixed Cell		9 [1.0]	18 [1.1]	22 [1.1]
Inflammation, Chronic Active		2 [1.5]		1 [1.0]
Epiglottis, Hyperplasia, Squamous	1 [1.0]	24 [1.6]	41 [1.4]	50 [2.3]
Epiglottis, Metaplasia, Squamous		49 [1.4]	50 [2.2]	50 [2.7]
Lung	(50)	(50)	(50)	(50)
Fibrosis	5 [1.0]	35 [1.1]	49 [1.5]	50 [1.8]
Hyperplasia, Lymphohistiocytic				1 [2.0]
Infiltration Cellular, Histiocyte	16 [1.1]	48 [1.3]	50 [1.8]	50 [2.8]
Inflammation, Chronic	1 [1.0]			

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Wistar Han RATS FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Inflammation, Chronic Active	5 [1.0]	46 [1.0]	50 [2.0]	50 [3.2]
Alveolar/bronchiolar Epithelium, Hyperplasia	2 [1.0]	9 [1.1]	31 [1.4]	50 [2.8]
Alveolar Epithelium, Hyperplasia	8 [1.3]	43 [1.1]	49 [2.0]	50 [2.4]
Alveolar Epithelium, Metaplasia, Squamous		3 [1.3]	9 [1.3]	21 [1.9]
Alveolus, Proteinosis	1 [1.0]	15 [1.0]	41 [1.4]	48 [2.8]
Bronchus-associated Lymphoid Tissue, Hyperplasia, Lymphohistiocytic		2 [1.0]	7 [1.0]	10 [1.4]
Nose	(50)	(50)	(49)	(50)
Inflammation, Suppurative	1 [1.0]	46 [1.2]	47 [1.2]	48 [1.3]
Glands, Olfactory Epithelium, Hyperplasia		32 [1.1]	43 [1.1]	46 [1.5]
Glands, Olfactory Epithelium, Hyperplasia, Squamous			1 [1.0]	
Goblet Cell, Hyperplasia	3 [1.0]	36 [1.0]	40 [1.1]	47 [1.1]
Olfactory Epithelium, Accumulation, Hyaline Droplet	14 [1.2]	50 [2.8]	49 [2.9]	50 [3.0]
Olfactory Epithelium, Metaplasia, Respiratory	1 [1.0]			
Olfactory Epithelium, Metaplasia, Squamous				2 [1.5]
Respiratory Epithelium, Accumulation, Hyaline Droplet	5 [1.2]	50 [1.5]	48 [1.5]	50 [1.5]
Respiratory Epithelium, Hyperplasia		7 [1.0]	8 [1.0]	25 [1.0]
Transitional Epithelium, Hyperplasia	5 [1.2]	11 [1.1]	4 [1.0]	21 [1.3]
Transitional Epithelium, Metaplasia, Squamous	1 [1.0]	5 [1.2]	1 [1.0]	2 [1.0]
Trachea	(49)	(50)	(50)	(50)
SPECIAL SENSES SYSTEM				
Eye	(50)	(50)	(50)	(50)
Cataract			1 [3.0]	1 [3.0]
Retina, Atrophy	3 [2.3]	2 [2.0]	1 [2.0]	2 [2.0]
Harderian Gland	(50)	(50)	(50)	(50)
Atrophy	1 [1.0]			
Inflammation	1 [1.0]	3 [1.0]	3 [1.0]	2 [1.0]
Zymbal's Gland	(0)	(2)	(1)	(1)
URINARY SYSTEM				

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Wistar Han RATS FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Kidney	(50)	(50)	(50)	(50)
Hydronephrosis		2 [2.0]		1 [4.0]
Infarct	1 [1.0]	2 [1.5]		
Metaplasia, Lipocyte		1 [2.0]		
Nephropathy	4 [1.0]	5 [1.4]	5 [1.4]	7 [1.0]
Pelvis, Inflammation	28 [1.3]	32 [1.2]	41 [1.1]	30 [1.1]
Renal Tubule, Cyst		1 [2.0]	1 [1.0]	3 [1.7]
Renal Tubule, Hyperplasia		1 [1.0]		
Ureter	(0)	(0)	(0)	(1)
Cyst				1 [2.0]
Urinary Bladder	(50)	(50)	(50)	(50)

*** END OF REPORT ***

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