

TDMS No. 60311 - 06

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 09/08/2011

Time Report Requested: 08:22:41

First Dose M/F: 05/15/06 / 05/15/06

Lab: BNW

F1_M3

C Number: C60311
Lock Date: 12/03/2008
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 2.4.2.1_003
PWG Approval Date: NONE

Test Type: CHRONIC

Cobalt

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CAS Number: 7440-48-4

First Dose M/F: 05/15/06 / 05/15/06

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	5	13	12	17
Natural Death	6	6	9	8
Survivors				
Moribund Sacrifice			1	3
Terminal Sacrifice	39	31	28	22
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Arteriole, Inflammation, Acute			1 (2%)	
Gallbladder	(43)	(37)	(34)	(35)
Degeneration, Hyaline			1 (3%)	
Intestine Large, Cecum	(45)	(45)	(44)	(45)
Intestine Large, Colon	(47)	(45)	(45)	(46)
Intestine Large, Rectum	(44)	(44)	(45)	(48)
Intestine Small, Duodenum	(45)	(44)	(44)	(44)
Inflammation, Chronic Active	1 (2%)			
Ulcer			1 (2%)	
Intestine Small, Ileum	(45)	(45)	(43)	(44)
Inflammation, Acute		1 (2%)		
Inflammation, Chronic Active			1 (2%)	
Intestine Small, Jejunum	(45)	(45)	(43)	(44)
Liver	(50)	(50)	(50)	(50)
Angiectasis		1 (2%)		1 (2%)
Basophilic Focus	4 (8%)	4 (8%)	6 (12%)	4 (8%)
Clear Cell Focus	17 (34%)	17 (34%)	8 (16%)	
Eosinophilic Focus	6 (12%)	5 (10%)	4 (8%)	2 (4%)
Fatty Change			1 (2%)	
Hemorrhage			1 (2%)	
Hepatodiaphragmatic Nodule		3 (6%)		3 (6%)
Inflammation, Chronic			1 (2%)	

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

Test Type: CHRONIC

Cobalt

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CAS Number: 7440-48-4

First Dose M/F: 05/15/06 / 05/15/06

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Mixed Cell Focus	1 (2%)			
Necrosis	2 (4%)	3 (6%)	1 (2%)	1 (2%)
Tension Lipidosis	2 (4%)		2 (4%)	
Mesentery	(5)	(5)	(5)	(3)
Fat, Necrosis	5 (100%)	4 (80%)	5 (100%)	3 (100%)
Pancreas	(50)	(47)	(50)	(50)
Atrophy			1 (2%)	1 (2%)
Salivary Glands	(50)	(49)	(50)	(50)
Inflammation, Chronic		1 (2%)		
Stomach, Forestomach	(50)	(48)	(50)	(50)
Hyperplasia, Squamous	1 (2%)	2 (4%)	2 (4%)	4 (8%)
Inflammation, Chronic Active		1 (2%)		3 (6%)
Ulcer	1 (2%)	5 (10%)	3 (6%)	1 (2%)
Stomach, Glandular	(48)	(46)	(48)	(49)
Necrosis	1 (2%)	1 (2%)	1 (2%)	
Ulcer		1 (2%)		1 (2%)
Arteriole, Inflammation, Acute			1 (2%)	
Tooth	(8)	(2)	(2)	(1)
Dysplasia	8 (100%)	1 (50%)	2 (100%)	1 (100%)
Inflammation, Chronic Active		1 (50%)		

CARDIOVASCULAR SYSTEM

Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	13 (26%)	5 (10%)	12 (24%)	8 (16%)
Hemorrhage				1 (2%)
Inflammation, Suppurative		1 (2%)		
Mineralization	1 (2%)	1 (2%)		
Necrosis			1 (2%)	
Thrombosis	1 (2%)			
Pericardium, Inflammation, Chronic				1 (2%)

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(49)	(50)	(50)
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a - Number of animals examined microscopically at site and number of animals with lesion

B6C3F1 MICE MALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Hyperplasia	6 (12%)	10 (20%)	2 (4%)	1 (2%)
Hypertrophy	18 (36%)	9 (18%)	12 (24%)	2 (4%)
Necrosis	1 (2%)			
Adrenal Medulla	(50)	(49)	(50)	(48)
Hyperplasia	2 (4%)	2 (4%)		
Islets, Pancreatic	(49)	(47)	(50)	(50)
Hyperplasia	2 (4%)	3 (6%)		2 (4%)
Parathyroid Gland	(29)	(25)	(26)	(27)
Pituitary Gland	(47)	(49)	(48)	(48)
Pars Distalis, Hyperplasia	1 (2%)	2 (4%)	1 (2%)	
Thyroid Gland	(49)	(49)	(50)	(49)

GENERAL BODY SYSTEM

Tissue NOS	(0)	(0)	(0)	(1)
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GENITAL SYSTEM

Coagulating Gland	(0)	(1)	(0)	(1)
Epididymis	(50)	(49)	(50)	(50)
Granuloma Sperm	2 (4%)		1 (2%)	
Penis	(0)	(0)	(0)	(1)
Inflammation, Acute				1 (100%)
Preputial Gland	(49)	(50)	(49)	(50)
Ectasia	1 (2%)	1 (2%)		
Inflammation, Chronic Active	1 (2%)	1 (2%)		
Prostate	(50)	(49)	(48)	(50)
Inflammation, Acute		1 (2%)		
Seminal Vesicle	(48)	(48)	(49)	(50)
Congestion		1 (2%)		
Inflammation, Chronic Active		1 (2%)		1 (2%)
Testes	(50)	(49)	(50)	(50)
Germinal Epithelium, Degeneration	9 (18%)	14 (29%)	8 (16%)	21 (42%)
Interstitial Cell, Hyperplasia				1 (2%)

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Test Type: CHRONIC

Cobalt

Time Report Requested: 08:22:41

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

First Dose M/F: 05/15/06 / 05/15/06

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE

control

1.25 mg/m3

2.5 mg/m3

5.0 mg/m3

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(49)	(50)	(49)
Angiectasis				1 (2%)
Thrombosis				1 (2%)
Lymph Node	(2)	(0)	(1)	(1)
Renal, Hemorrhage	1 (50%)			
Lymph Node, Bronchial	(26)	(32)	(20)	(24)
Lymph Node, Mandibular	(37)	(23)	(27)	(37)
Lymph Node, Mediastinal	(34)	(34)	(36)	(44)
Hyperplasia, Lymphoid				1 (2%)
Lymph Node, Mesenteric	(47)	(44)	(44)	(42)
Hemorrhage	1 (2%)	1 (2%)		
Hyperplasia, Lymphoid			1 (2%)	
Arteriole, Inflammation, Chronic Active				1 (2%)
Spleen	(50)	(48)	(49)	(48)
Hematopoietic Cell Proliferation	5 (10%)			
Infarct		1 (2%)		
Thymus	(42)	(44)	(40)	(38)

INTEGUMENTARY SYSTEM

Skin	(50)	(50)	(50)	(49)
Inflammation, Chronic Active	1 (2%)	1 (2%)	2 (4%)	2 (4%)
Metaplasia, Osseous			1 (2%)	
Subcutaneous Tissue, Edema	1 (2%)			

MUSCULOSKELETAL SYSTEM

Bone	(50)	(49)	(50)	(50)
Skeletal Muscle	(0)	(3)	(3)	(1)

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Species/Strain: MICE/B6C3F1

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NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
Infiltration Cellular, Histiocyte		1 (2%)		
Necrosis		1 (2%)		
Peripheral Nerve	(1)	(0)	(0)	(1)
Degeneration	1 (100%)			
Spinal Cord	(1)	(0)	(0)	(1)

RESPIRATORY SYSTEM

Larynx	(48)	(47)	(49)	(50)
Inflammation, Suppurative	7 (15%)	2 (4%)	2 (4%)	4 (8%)
Inflammation, Chronic	1 (2%)	1 (2%)		
Arteriole, Inflammation, Acute			1 (2%)	
Respiratory Epithelium, Erosion				1 (2%)
Respiratory Epithelium, Metaplasia, Squamous	7 (15%)	47 (100%)	49 (100%)	49 (98%)
Respiratory Epithelium, Vacuolization Cytoplasmic		20 (43%)	24 (49%)	32 (64%)
Squamous Epithelium, Erosion	1 (2%)	3 (6%)		1 (2%)
Squamous Epithelium, Hyperplasia	2 (4%)	5 (11%)	5 (10%)	8 (16%)
Lung	(50)	(49)	(50)	(50)
Inflammation, Suppurative	1 (2%)	2 (4%)	6 (12%)	16 (32%)
Proteinosis	2 (4%)	46 (94%)	49 (98%)	50 (100%)
Alveolar/bronchiolar Epithelium, Hyperplasia		46 (94%)	49 (98%)	50 (100%)
Alveolar/bronchiolar Epithelium, Vacuolization Cytoplasmic		49 (100%)	47 (94%)	48 (96%)
Alveolar Epithelium, Hyperplasia	4 (8%)	29 (59%)	24 (48%)	43 (86%)
Alveolus, Infiltration Cellular, Histiocyte	10 (20%)	49 (100%)	48 (96%)	48 (96%)
Bronchiole, Epithelium, Erosion		4 (8%)	10 (20%)	2 (4%)
Bronchiole, Epithelium, Hyperplasia	4 (8%)	7 (14%)	9 (18%)	11 (22%)
Nose	(50)	(49)	(50)	(50)
Inflammation, Suppurative	16 (32%)	32 (65%)	49 (98%)	50 (100%)
Olfactory Epithelium, Atrophy	3 (6%)	46 (94%)	42 (84%)	31 (62%)
Olfactory Epithelium, Hyperplasia		25 (51%)	17 (34%)	8 (16%)
Olfactory Epithelium, Metaplasia, Respiratory	5 (10%)	24 (49%)	44 (88%)	50 (100%)

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CAS Number: 7440-48-4

First Dose M/F: 05/15/06 / 05/15/06

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Olfactory Epithelium, Respiratory Metaplasia, Atypical		14 (29%)	9 (18%)	1 (2%)
Respiratory Epithelium, Accumulation, Hyaline Droplet	13 (26%)	29 (59%)	29 (58%)	7 (14%)
Respiratory Epithelium, Erosion		1 (2%)		
Respiratory Epithelium, Hyperplasia	44 (88%)	41 (84%)	36 (72%)	19 (38%)
Respiratory Epithelium, Metaplasia, Squamous	3 (6%)	45 (92%)	35 (70%)	33 (66%)
Respiratory Epithelium, Vacuolization Cytoplasmic		41 (84%)	39 (78%)	37 (74%)
Squamous Epithelium, Erosion	1 (2%)	1 (2%)	2 (4%)	
Turbinate, Atrophy	3 (6%)	25 (51%)	49 (98%)	50 (100%)
Trachea	(48)	(47)	(48)	(50)
Inflammation, Suppurative Epithelium, Vacuolization Cytoplasmic		14 (30%)	31 (65%)	37 (74%)

SPECIAL SENSES SYSTEM

Eye	(47)	(46)	(43)	(45)
Cataract	1 (2%)			1 (2%)
Cornea, Inflammation, Chronic Active	4 (9%)	1 (2%)	1 (2%)	
Harderian Gland	(49)	(48)	(48)	(50)
Hyperplasia	1 (2%)			2 (4%)
Zymbal's Gland	(0)	(1)	(0)	(0)
Inflammation, Suppurative		1 (100%)		

URINARY SYSTEM

Kidney	(50)	(49)	(49)	(50)
Cyst	1 (2%)	1 (2%)		
Infarct	2 (4%)	4 (8%)	1 (2%)	3 (6%)
Nephropathy	46 (92%)	44 (90%)	42 (86%)	37 (74%)
Thrombosis			1 (2%)	
Arteriole, Inflammation, Chronic Active				1 (2%)
Capsule, Hemorrhage	1 (2%)			
Pelvis, Inflammation, Suppurative	1 (2%)			

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TDMS No. 60311 - 06

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Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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

Cobalt

CAS Number: 7440-48-4

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First Dose M/F: 05/15/06 / 05/15/06

Lab: BNW

B6C3F1 MICE MALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Renal Tubule, Hyperplasia		1 (2%)	1 (2%)	1 (2%)
Renal Tubule, Necrosis			1 (2%)	
Urinary Bladder	(48)	(48)	(50)	(47)
Hemorrhage				1 (2%)
Inflammation, Chronic Active	1 (2%)			
Arteriole, Inflammation, Chronic Active				1 (2%)
Transitional Epithelium, Hyperplasia	1 (2%)		1 (2%)	

*** END OF MALE ***

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B6C3F1 MICE FEMALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	9	12	19	21
Natural Death	5	2	4	3
Survivors				
Natural Death		2		
Terminal Sacrifice	36	34	27	26
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Gallbladder	(44)	(41)	(38)	(46)
Intestine Large, Cecum	(46)	(47)	(49)	(48)
Hemorrhage	1 (2%)			
Intestine Large, Colon	(46)	(48)	(49)	(49)
Intestine Large, Rectum	(46)	(48)	(48)	(49)
Intestine Small, Duodenum	(45)	(47)	(48)	(49)
Inflammation, Acute		1 (2%)		
Necrosis		1 (2%)		
Intestine Small, Ileum	(45)	(46)	(49)	(49)
Intestine Small, Jejunum	(45)	(47)	(49)	(49)
Liver	(50)	(50)	(50)	(50)
Angiectasis	1 (2%)			
Basophilic Focus	1 (2%)	2 (4%)	2 (4%)	1 (2%)
Clear Cell Focus	1 (2%)	1 (2%)	1 (2%)	
Eosinophilic Focus	3 (6%)	2 (4%)	4 (8%)	
Fatty Change			1 (2%)	
Hematopoietic Cell Proliferation	1 (2%)			
Hepatodiaphragmatic Nodule			1 (2%)	1 (2%)
Mixed Cell Focus		1 (2%)	1 (2%)	
Necrosis	6 (12%)	3 (6%)	2 (4%)	1 (2%)
Tension Lipidosis	5 (10%)	5 (10%)	3 (6%)	2 (4%)
Vacuolization Cytoplasmic	1 (2%)	1 (2%)		1 (2%)

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B6C3F1 MICE FEMALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Bile Duct, Cyst				1 (2%)
Mesentery	(18)	(13)	(10)	(8)
Congestion			1 (10%)	
Inflammation, Chronic Active		1 (8%)		
Fat, Hemorrhage	1 (6%)			
Fat, Necrosis	18 (100%)	11 (85%)	10 (100%)	8 (100%)
Pancreas	(50)	(50)	(50)	(49)
Atrophy	1 (2%)		2 (4%)	1 (2%)
Salivary Glands	(50)	(50)	(50)	(50)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Hyperplasia, Squamous			3 (6%)	1 (2%)
Metaplasia, Hepatocyte				1 (2%)
Ulcer	2 (4%)	2 (4%)	1 (2%)	
Stomach, Glandular	(48)	(50)	(49)	(49)
Metaplasia, Hepatocyte			1 (2%)	
Ulcer	1 (2%)	2 (4%)		

CARDIOVASCULAR SYSTEM

Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	6 (12%)	3 (6%)	11 (22%)	9 (18%)
Inflammation, Suppurative				1 (2%)
Mineralization	1 (2%)	1 (2%)		
Necrosis		1 (2%)		1 (2%)
Thrombosis	1 (2%)			1 (2%)
Capillary, Hyperplasia	1 (2%)			

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(48)
Hyperplasia	1 (2%)	1 (2%)	1 (2%)	3 (6%)
Hypertrophy		2 (4%)		
Adrenal Medulla	(50)	(50)	(49)	(48)
Hyperplasia	2 (4%)	1 (2%)		1 (2%)
Islets, Pancreatic	(50)	(50)	(50)	(49)

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Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE FEMALE

	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Hyperplasia		2 (4%)		1 (2%)
Parathyroid Gland	(28)	(28)	(24)	(32)
Pituitary Gland	(47)	(50)	(48)	(49)
Pars Distalis, Angiectasis	2 (4%)	1 (2%)		
Pars Distalis, Hyperplasia	12 (26%)	5 (10%)	6 (13%)	5 (10%)
Thyroid Gland	(50)	(50)	(50)	(49)
Follicular Cell, Hyperplasia		1 (2%)		

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Clitoral Gland	(43)	(44)	(41)	(43)
Ovary	(48)	(50)	(50)	(50)
Angiectasis				1 (2%)
Cyst	8 (17%)	2 (4%)	11 (22%)	10 (20%)
Inflammation, Suppurative				1 (2%)
Thrombosis	1 (2%)		1 (2%)	
Uterus	(49)	(50)	(50)	(50)
Angiectasis		4 (8%)		
Inflammation, Chronic Active	2 (4%)		1 (2%)	
Thrombosis		2 (4%)		1 (2%)
Endometrium, Hyperplasia, Cystic	41 (84%)	38 (76%)	40 (80%)	34 (68%)
Vagina	(0)	(0)	(1)	(0)

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(11)	(8)	(7)	(1)
Iliac, Ectasia	3 (27%)		1 (14%)	
Lumbar, Ectasia		1 (13%)		
Renal, Ectasia	2 (18%)	2 (25%)		

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B6C3F1 MICE FEMALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Renal, Erythrophagocytosis		1 (13%)		
Renal, Hyperplasia, Lymphoid	1 (9%)			
Lymph Node, Bronchial	(22)	(33)	(34)	(22)
Inflammation, Suppurative				1 (5%)
Lymph Node, Mandibular	(40)	(41)	(38)	(31)
Hyperplasia, Lymphoid		1 (2%)		
Lymph Node, Mediastinal	(42)	(39)	(44)	(46)
Hyperplasia, Lymphoid	1 (2%)			1 (2%)
Inflammation, Suppurative				1 (2%)
Lymph Node, Mesenteric	(49)	(49)	(47)	(47)
Ectasia		1 (2%)		
Hyperplasia, Lymphoid	1 (2%)	1 (2%)		
Spleen	(49)	(49)	(48)	(49)
Hematopoietic Cell Proliferation	5 (10%)	4 (8%)	4 (8%)	1 (2%)
Hyperplasia, Lymphoid		1 (2%)	1 (2%)	
Necrosis	1 (2%)			
Thymus	(46)	(46)	(46)	(46)
Hyperplasia, Lymphoid				1 (2%)
INTEGUMENTARY SYSTEM				
Mammary Gland	(48)	(50)	(50)	(50)
Hyperplasia	1 (2%)		1 (2%)	
Skin	(50)	(50)	(49)	(50)
Inflammation, Chronic Active	2 (4%)	1 (2%)	2 (4%)	
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Hyperostosis	1 (2%)			
Skeletal Muscle	(0)	(2)	(1)	(0)
NERVOUS SYSTEM				

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B6C3F1 MICE FEMALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Brain	(50)	(50)	(50)	(50)
Meninges, Infiltration Cellular, Mononuclear Cell		2 (4%)		
Peripheral Nerve	(0)	(0)	(1)	(0)

RESPIRATORY SYSTEM

Larynx	(47)	(50)	(50)	(47)
Inflammation, Suppurative		1 (2%)		2 (4%)
Inflammation, Chronic			1 (2%)	
Inflammation, Chronic Active		1 (2%)		1 (2%)
Respiratory Epithelium, Metaplasia, Squamous	2 (4%)	49 (98%)	50 (100%)	47 (100%)
Respiratory Epithelium, Vacuolization Cytoplasmic		24 (48%)	31 (62%)	34 (72%)
Squamous Epithelium, Erosion	1 (2%)	2 (4%)	7 (14%)	4 (9%)
Squamous Epithelium, Hyperplasia	2 (4%)	13 (26%)	21 (42%)	21 (45%)
Lung	(49)	(50)	(50)	(50)
Infiltration Cellular, Histiocyte			1 (2%)	
Inflammation, Suppurative		3 (6%)	2 (4%)	15 (30%)
Proteinosis		45 (90%)	50 (100%)	50 (100%)
Thrombosis			1 (2%)	
Alveolar/bronchiolar Epithelium, Hyperplasia		49 (98%)	49 (98%)	50 (100%)
Alveolar/bronchiolar Epithelium, Vacuolization Cytoplasmic		48 (96%)	49 (98%)	48 (96%)
Alveolar Epithelium, Hyperplasia	2 (4%)	27 (54%)	26 (52%)	41 (82%)
Alveolar Epithelium, Metaplasia, Squamous				1 (2%)
Alveolus, Infiltration Cellular, Histiocyte	10 (20%)	49 (98%)	50 (100%)	49 (98%)
Bronchiole, Epithelium, Erosion			4 (8%)	3 (6%)
Bronchiole, Epithelium, Hyperplasia		3 (6%)	12 (24%)	26 (52%)
Nose	(50)	(50)	(50)	(50)
Inflammation, Suppurative	3 (6%)	47 (94%)	50 (100%)	50 (100%)
Olfactory Epithelium, Atrophy	4 (8%)	44 (88%)	39 (78%)	24 (48%)
Olfactory Epithelium, Hyperplasia	1 (2%)	22 (44%)	16 (32%)	8 (16%)
Olfactory Epithelium, Metaplasia, Respiratory	1 (2%)	26 (52%)	44 (88%)	50 (100%)
Olfactory Epithelium, Metaplasia, Squamous				1 (2%)

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

B6C3F1 MICE FEMALE	control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Olfactory Epithelium, Respiratory Metaplasia, Atypical		18 (36%)	14 (28%)	1 (2%)
Respiratory Epithelium, Accumulation, Hyaline Droplet	12 (24%)	38 (76%)	40 (80%)	10 (20%)
Respiratory Epithelium, Hyperplasia	43 (86%)	40 (80%)	40 (80%)	9 (18%)
Respiratory Epithelium, Hyperplasia, Histiocytic	1 (2%)			
Respiratory Epithelium, Metaplasia, Squamous		49 (98%)	49 (98%)	50 (100%)
Respiratory Epithelium, Vacuolization Cytoplasmic		40 (80%)	47 (94%)	47 (94%)
Squamous Epithelium, Erosion		7 (14%)	1 (2%)	5 (10%)
Turbinate, Atrophy		44 (88%)	50 (100%)	50 (100%)
Pleura	(0)	(1)	(0)	(1)
Trachea	(48)	(50)	(48)	(49)
Inflammation, Suppurative		1 (2%)		1 (2%)
Epithelium, Vacuolization Cytoplasmic		26 (52%)	37 (77%)	39 (80%)

SPECIAL SENSES SYSTEM

Eye	(46)	(46)	(48)	(48)
Phthisis Bulbi		2 (4%)		
Cornea, Inflammation, Chronic Active		2 (4%)	1 (2%)	
Harderian Gland	(49)	(49)	(49)	(50)
Hyperplasia	4 (8%)	1 (2%)	1 (2%)	
Zymbal's Gland	(0)	(1)	(1)	(0)

URINARY SYSTEM

Kidney	(50)	(50)	(50)	(50)
Amyloid Deposition	1 (2%)			
Cyst	1 (2%)			
Infarct		2 (4%)	2 (4%)	1 (2%)
Nephropathy	35 (70%)	31 (62%)	20 (40%)	19 (38%)
Renal Tubule, Hyperplasia	1 (2%)			
Renal Tubule, Necrosis	1 (2%)	1 (2%)		
Urinary Bladder	(49)	(49)	(48)	(49)

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

TDMS No. 60311 - 06

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 09/08/2011

Time Report Requested: 08:22:41

First Dose M/F: 05/15/06 / 05/15/06

Lab: BNW

B6C3F1 MICE FEMALE

control

1.25 mg/m3

2.5 mg/m3

5.0 mg/m3

*** END OF REPORT ***

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