

Experiment Number: 60311 - 03

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

Date Report Requested: 08/16/2012

Test Type: 90-DAY

Cobalt

Time Report Requested: 08:59:19

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

First Dose M/F: 03/08/05 / 03/07/05

Species/Strain: RATS/F 344/N

Lab: BNW

F2_R2

NTP Study Number: C60311
Lock Date: 11/29/2005
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 2.6.0.0_007
PWG Approval Date: NONE

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FISCHER 344 RATS MALE

control

0.625 MG/M3

1.25 MG/M3

2.5 MG/M3

5.0 MG/M3

Disposition Summary

Animals Initially In Study	10	10	10	10	10
Early Deaths					
Survivors					
Terminal Sacrifice	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10

ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(10)
Liver	(10)	(0)	(0)	(1)	(10)
Hepatodiaphragmatic Nodule	1			1	
Pancreas	(10)	(0)	(0)	(0)	(10)
Duct, Cyst	1 [3.0]				
Salivary Glands	(10)	(0)	(0)	(0)	(10)
Inflammation, Acute					1 [2.0]
Stomach, Forestomach	(10)	(0)	(0)	(0)	(10)
Hyperplasia, Squamous	1 [3.0]				
Stomach, Glandular	(10)	(0)	(0)	(0)	(10)

CARDIOVASCULAR SYSTEM

Heart	(10)	(0)	(0)	(0)	(10)
Cardiomyopathy	8 [1.0]				5 [1.0]

ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(10)
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a - Number of animals examined microscopically at site and number of animals with lesion

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

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FISCHER 344 RATS MALE	control	0.625 MG/M3	1.25 MG/M3	2.5 MG/M3	5.0 MG/M3
Adrenal Medulla	(10)	(0)	(0)	(0)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(7)
Pituitary Gland	(10)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(0)	(0)	(0)	(10)

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Epididymis	(10)	(10)	(10)	(10)	(10)
Preputial Gland	(10)	(0)	(0)	(0)	(10)
Prostate	(10)	(0)	(1)	(0)	(9)
Seminal Vesicle	(10)	(0)	(0)	(0)	(10)
Testes	(10)	(10)	(10)	(10)	(10)

HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(0)	(0)	(0)	(10)
Lymph Node	(0)	(0)	(0)	(0)	(1)
Pancreatic, Pigmentation					1 [2.0]
Lymph Node, Mandibular	(0)	(0)	(0)	(0)	(1)
Lymph Node, Mediastinal	(9)	(0)	(0)	(0)	(7)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(10)
Spleen	(10)	(0)	(0)	(0)	(10)
Thymus	(10)	(0)	(0)	(0)	(10)

INTEGUMENTARY SYSTEM

Mammary Gland	(7)	(0)	(0)	(0)	(7)
Skin	(10)	(0)	(0)	(0)	(10)

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FISCHER 344 RATS MALE	control	0.625 MG/M3	1.25 MG/M3	2.5 MG/M3	5.0 MG/M3
MUSCULOSKELETAL SYSTEM					
Bone	(10)	(0)	(0)	(0)	(10)
NERVOUS SYSTEM					
Brain	(10)	(0)	(0)	(0)	(10)
RESPIRATORY SYSTEM					
Larynx	(10)	(0)	(0)	(0)	(10)
Lung	(10)	(10)	(10)	(10)	(10)
Inflammation, Chronic Active		10 [1.9]	10 [1.9]	10 [1.5]	10 [2.4]
Alveolar Epithelium, Hyperplasia					2 [1.5]
Alveolus, Hemorrhage	2 [1.0]		2 [1.0]	4 [1.0]	4 [1.0]
Alveolus, Proteinosis		10 [1.8]	10 [2.2]	10 [2.2]	10 [2.7]
Bronchiole, Epithelium, Hyperplasia			10 [1.0]	10 [1.4]	10 [2.2]
Nose	(10)	(10)	(10)	(10)	(10)
Olfactory Epithelium, Degeneration			2 [1.0]	9 [1.0]	10 [2.5]
Olfactory Epithelium, Hyperplasia			2 [1.0]	6 [1.2]	10 [1.7]
Respiratory Epithelium, Hyperplasia			3 [1.0]	9 [1.0]	10 [1.8]
Respiratory Epithelium, Metaplasia, Squamous					1 [1.0]
Turbinate, Atrophy				3 [1.0]	9 [1.0]
Trachea	(10)	(0)	(0)	(0)	(10)
SPECIAL SENSES SYSTEM					
Eye	(10)	(0)	(0)	(0)	(10)
Retina, Atrophy	1 [1.0]				
Harderian Gland	(10)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active	1 [3.0]				

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

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FISCHER 344 RATS MALE

control

0.625 MG/M3

1.25 MG/M3

2.5 MG/M3

5.0 MG/M3

URINARY SYSTEM

Kidney	(9)	(0)	(0)	(0)	(10)
Nephropathy	4 [1.0]				1 [1.0]
Urinary Bladder	(10)	(0)	(0)	(0)	(10)

*** END OF MALE ***

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FISCHER 344 RATS FEMALE	control	0.625 MG/M3	1.25 MG/M3	2.5 MG/M3	5.0 MG/M3
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Disposition Summary

Animals Initially In Study	10	10	10	10	10
Early Deaths					
Survivors					
Terminal Sacrifice	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10

ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(10)
Liver	(10)	(1)	(0)	(0)	(10)
Hepatodiaphragmatic Nodule		1			1
Pancreas	(10)	(0)	(0)	(0)	(10)
Salivary Glands	(10)	(0)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(10)

CARDIOVASCULAR SYSTEM

Heart	(10)	(0)	(0)	(0)	(10)
Cardiomyopathy	2 [1.0]				3 [1.0]

ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(10)
Adrenal Medulla	(10)	(0)	(0)	(0)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(10)
Parathyroid Gland	(7)	(0)	(0)	(0)	(8)

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Pituitary Gland	(10)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(0)	(0)	(0)	(10)
GENERAL BODY SYSTEM					
None					
GENITAL SYSTEM					
Clitoral Gland	(10)	(0)	(0)	(0)	(10)
Ovary	(10)	(0)	(0)	(1)	(10)
Cyst				1 [2.0]	
Uterus	(10)	(0)	(0)	(0)	(10)
HEMATOPOIETIC SYSTEM					
Bone Marrow	(10)	(0)	(0)	(0)	(10)
Lymph Node, Mediastinal	(8)	(0)	(0)	(0)	(8)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(10)
Spleen	(10)	(0)	(0)	(0)	(10)
Thymus	(10)	(0)	(0)	(0)	(10)
INTEGUMENTARY SYSTEM					
Mammary Gland	(10)	(0)	(0)	(0)	(10)
Skin	(10)	(0)	(0)	(0)	(10)
MUSCULOSKELETAL SYSTEM					
Bone	(10)	(0)	(0)	(0)	(10)

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NERVOUS SYSTEM					
Brain	(10)	(0)	(0)	(0)	(10)
RESPIRATORY SYSTEM					
Larynx	(10)	(0)	(0)	(0)	(10)
Lung	(10)	(10)	(10)	(10)	(10)
Inflammation, Chronic Active	2 [1.0]	10 [1.9]	10 [1.5]	10 [1.6]	10 [2.4]
Alveolar Epithelium, Hyperplasia					1 [1.0]
Alveolus, Hemorrhage			3 [1.0]	1 [1.0]	2 [1.0]
Alveolus, Proteinosis		10 [1.8]	10 [1.9]	10 [1.9]	10 [2.1]
Bronchiole, Epithelium, Hyperplasia			10 [1.0]	10 [1.3]	10 [2.0]
Nose	(10)	(10)	(10)	(10)	(10)
Olfactory Epithelium, Degeneration			5 [1.0]	10 [1.0]	10 [2.5]
Olfactory Epithelium, Hyperplasia				3 [1.0]	10 [2.2]
Respiratory Epithelium, Hyperplasia		1 [1.0]		9 [1.0]	10 [1.8]
Respiratory Epithelium, Necrosis			1 [1.0]		
Turbinate, Atrophy				4 [1.0]	6 [1.0]
Trachea	(10)	(0)	(0)	(0)	(10)
SPECIAL SENSES SYSTEM					
Eye	(10)	(0)	(0)	(0)	(10)
Harderian Gland	(10)	(0)	(0)	(0)	(10)
URINARY SYSTEM					
Kidney	(10)	(0)	(0)	(0)	(10)
Nephropathy					2 [1.0]
Urinary Bladder	(10)	(0)	(0)	(0)	(10)

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2.5 MG/M3

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*** END OF REPORT ***

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