

TDMS No. 20009 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
beta-Picoline
CAS Number: 108-99-6

Date Report Requested: 05/27/2011
Time Report Requested: 10:09:56
First Dose M/F: 11/18/04 / 11/19/04
Lab: BAT

F2_R2

C Number: C20009
Lock Date: 06/05/2008
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 2.4.1.0_004
PWG Approval Date: 06/29/2010

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

ALIMENTARY SYSTEM

Esophagus Inflammation, Suppurative	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1
Intestine Large, Cecum Necrosis	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+	+	
Intestine Large, Colon Parasite Metazoan	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	2 1
Intestine Large, Rectum Parasite Metazoan	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Intestine Small, Duodenum	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Intestine Small, Ileum	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	
Intestine Small, Jejunum Inflammation, Chronic Active	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+	1
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Angiectasis												2															
Basophilic Focus	X	X			X		X	X		X	X				X			X									
Clear Cell Focus		X			X																	X	X				
Degeneration, Cystic			1									1															
Eosinophilic Focus												X	X				X								X		
Fatty Change				4			3					2								3							
Hepatodiaphragmatic Nodule	X													X													
Mixed Cell Focus	X	X								X																	

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:
 X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate
 I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

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FISCHER 344 RATS MALE	DAY ON TEST																									ANIMAL ID	males (cont...)
	0 7 2 7	0 7 2 6	0 4 9 9	0 6 6 4	0 7 2 6	0 6 7 6	0 7 2 7	0 7 2 7	0 7 2 6	0 7 2 6	0 7 2 6	0 7 2 6	0 7 2 6	0 7 2 6	0 7 2 6	0 4 2 7	0 7 2 3	0 5 9 0	0 2 7 3	0 7 2 6	0 7 2 6	0 7 2 6	0 7 2 6	0 7 2 6	0 3 9 1		
0 mg/l	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	

Necrosis 1
 Vacuolization Cytoplasmic 2 1 2 1 2 1 2
 Bile Duct, Hyperplasia 2 3 3 3 1 2 2 3 3 3 2 2 2 2 2 1 1 2 2
 Centrilobular, Necrosis 2
 Periportal, Inflammation 2

Mesentery + + +
 Fat, Necrosis 2

Pancreas + + + A +
 Cyst
 Hyperplasia 1
 Acinus, Atrophy 1 1 1 3 1 1 1

Salivary Glands +

Stomach, Forestomach +
 Erosion 3
 Fibrosis 2
 Hyperplasia, Squamous 4 1 4 3 3
 Ulcer 4

Stomach, Glandular +
 Erosion
 Fibrosis 2
 Hyperplasia
 Inflammation, Chronic Active 2

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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FISCHER 344 RATS MALE	DAY ON TEST																									ANIMAL ID	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 mg/l	7	7	4	6	7	6	7	7	7	7	7	7	7	7	7	7	4	7	5	2	2	7	7	7	7	3	
	2	2	9	6	2	7	2	2	2	2	2	2	2	2	2	6	2	9	7	7	2	2	2	2	9		
	7	6	9	4	6	6	7	7	6	6	7	6	6	7	6	7	8	3	3	6	6	6	6	6	1		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0	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		

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cardiomyopathy	2	3	2	3	3	3	3	3	3	3	2	3	3	2	2	2	2	3	2	1	3	2	2	2	1
Atrium, Thrombosis				3	1	3																			

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Accessory Adrenal Cortical Nodule																									
Hyperplasia					1			1	2	1		3					1				1	2	1		
Necrosis																									
Vacuolization Cytoplasmic							2				1									2					
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia										2					2						2	1			
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia																									
Parathyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia																									
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cyst																							1		
Metaplasia, Osseous																						1			
Pars Distalis, Hyperplasia			3			3			2				2		2				1					2	
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Congestion																									

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	0 7	0 7	0 4	0 6	0 7	0 6	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 7	0 4	0 7	0 5	0 2	0 7	0 7	0 7	0 7	0 7	0 3		
0 mg/l	2	7	9	6	2	7	2	2	2	2	2	2	2	2	2	6	7	8	6	6	7	6	6	6	1		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	0	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	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5		

C-cell, Hyperplasia

1

1

GENERAL BODY SYSTEM

Peritoneum

+

GENITAL SYSTEM

Epididymis

+ +

Preputial Gland
Inflammation

+
 1 2 3 2 1 3 1 2 2 2 1 2

Prostate
Hyperplasia
Hyperplasia, Adenomatous
Inflammation

+ + + A +
 1 2 2 3 1 3 1 1 2 2 2 1 2

Seminal Vesicle

+ +

Testes
Atrophy
Inflammation, Chronic Active
Interstitial Cell, Hyperplasia

+
 3 3 4 2
 1 2 1 1 1

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node
Congestion

+ + 3 + + +

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| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------|
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5 | |

Hyperplasia, Lymphoid
 Mediastinal, Congestion
 Mediastinal, Ectasia
 Mediastinal, Hyperplasia

3
3

3

Lymph Node, Mandibular

M M

Lymph Node, Mesenteric
 Congestion

+
3

Spleen
 Hematopoietic Cell Proliferation
 Lymphoid Follicle, Hyperplasia

+
4

Thymus

+ +

INTEGUMENTARY SYSTEM

Mammary Gland
 Galactocele
 Hyperplasia

+
2 1 2 2 1 1

Skin
 Cyst Epithelial Inclusion
 Hyperplasia, Squamous
 Inflammation, Suppurative
 Inflammation, Chronic Active

+
1 3

MUSCULOSKELETAL SYSTEM

Bone

+ +

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| | | 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...) |
|-------------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|
| DAY ON TEST | | 7 | 7 | 4 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 5 | 2 | 7 | 7 | 7 | 7 | 3 | |
| FISCHER 344 RATS MALE

0 mg/l | | 2 | 2 | 9 | 6 | 2 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 2 | 9 | 7 | 7 | 2 | 2 | 2 | 9 | |
| | | 7 | 6 | 9 | 4 | 6 | 7 | 7 | 6 | 6 | 7 | 6 | 6 | 7 | 6 | 7 | 6 | 7 | 8 | 3 | 3 | 6 | 6 | 6 | 6 | |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 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 |

Hyperostosis

NERVOUS SYSTEM

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

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | 2 | | | | | | | 2 | | | | | | | | | | | 1 | | | | 2 | | |
| Perivascular, Inflammation, Chronic Active | | | 3 | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Foreign Body | | | | | | | 2 | | | | 1 | 2 | | | | | | | | | | | | | |
| Inflammation | | | | | 1 | 3 | 1 | | | 1 | 3 | | 3 | | | 3 | 1 | | | | | | 2 | | |
| Necrosis | | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Nasolacrimal Duct, Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | | 2 | | | | 1 | 2 | | 2 | | | 2 | 2 | | | | | | | | |
| Respiratory Epithelium, Ulcer | | | | | | | | | | | | | | | | | 2 | | | | | | | | |
| Trachea | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Amyloid Deposition | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| Glands, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Ear | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

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| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------------|
| FISCHER 344 RATS MALE | DAY ON TEST | 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 | 4 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 5 | 2 | 7 | 7 | 7 | 7 | 3 | |
| 0 mg/l | | 2 | 2 | 9 | 6 | 2 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 2 | 9 | 7 | 2 | 2 | 2 | 9 | males
(cont...) |
| | | 7 | 6 | 9 | 4 | 6 | 7 | 7 | 6 | 6 | 7 | 6 | 7 | 6 | 7 | 8 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 1 | |

Cyst
 Hyperplasia, Squamous

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cataract | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | |
| Sclera, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | |

Zymbal's Gland

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Nephropathy | 4 | 2 | 4 | 2 | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 3 | 2 | 2 | 4 | 1 | 2 | 2 | | 4 | 3 | 4 | 3 | 2 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE

0 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|-------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|---|--|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | | |
| | 7 | 7 | 5 | 7 | 7 | 6 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 0 | 6 | 7 | 6 | 7 | 7 | 7 | | 6 | 7 | 6 | |
| | 2 | 2 | 0 | 2 | 2 | 8 | 7 | 2 | 2 | 5 | 2 | 2 | 2 | 1 | 7 | 2 | 5 | 2 | 1 | 2 | 2 | 8 | 2 | 0 | |
| | 8 | 6 | 4 | 7 | 8 | 5 | 6 | 6 | 8 | 4 | 7 | 7 | 8 | 6 | 7 | 6 | 8 | 7 | 3 | 6 | 7 | 6 | 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 | 0 | |
| | 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 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|-----|
| Esophagus
Inflammation, Suppurative | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 | |
| Intestine Large, Cecum
Necrosis | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 45 | 1 | 2.0 |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 47 | 3 | 1.3 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 47 | 2 | 1.5 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 48 | | |
| Intestine Small, Ileum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | 46 | | |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | 45 | 1 | 1.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 2.0 |
| Basophilic Focus | | | | | X | | X | | | | X | | | X | | X | | X | | | | X | | 13 | | | |
| Clear Cell Focus | | X | | X | | | | | | | X | X | | X | | | | X | X | X | | X | | 3 | | 1.0 | |
| Degeneration, Cystic | 1 | | | | | | | | | | | | | | | | | | | | | | | 7 | | | |
| Eosinophilic Focus | | | | X | | | X | X | | | | | | | | | | | | | | | | 7 | | | |
| Fatty Change | | | 3 | | | | | | | | | | | | | 3 | | | | | | 1 | | 7 | | 2.7 | |
| Hepatodiaphragmatic Nodule | | | | | | | X | | | | | | | | | | | | | | | X | | 4 | | | |
| Mixed Cell Focus | | | | X | | X | | | | | | | | | | | | | | | | X | | 6 | | | |

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| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|--------|--------|
| | 0728 | 0726 | 0724 | 0722 | 0720 | 0718 | 0716 | 0714 | 0712 | 0710 | 0708 | 0706 | 0704 | 0702 | 0700 | 0698 | 0696 | 0694 | 0692 | 0690 | 0688 | 0686 | 0684 | 0682 | | 0680 | |
| 0 mg/l | 0026 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.0 |
| Vacuolization Cytoplasmic | 2 | 1 | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | 2 | 15 1.5 |
| Bile Duct, Hyperplasia | 2 | 2 | | 2 | 1 | 2 | 1 | 2 | | 2 | 2 | 2 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 40 2.3 |
| Centrilobular, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Periportal, Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 1.5 |
| Acinus, Atrophy | | 1 | | 1 | 1 | | 1 | 1 | | | | 2 | 1 | | | 2 | | | | | 3 | 1 | | | | 18 1.3 | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Erosion | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia, Squamous | | | 2 | | 2 | 2 | 3 | 1 | | | | | 3 | | | 1 | | | | 2 | 1 | | | | 1 | 15 2.2 | |
| Ulcer | | | | | | | 3 | | | | | | | | | | | | | | | | | | | 2 3.5 | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Erosion | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia | | | | | | | | | | | | 2 | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation, Chronic Active | | 1 | | | | | | | | 1 | | | 2 | | | | | | | | | | | | | 4 1.5 | |

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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 I .. Insufficient tissue
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| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|-----------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|--------|--|
| | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | 0728 | | 0728 | |
| 0 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cardiomyopathy | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | | 3 | 3 | | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 49 2.5 | |
| Atrium, Thrombosis | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 5 2.2 | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Accessory Adrenal Cortical Nodule | 1 | | | | | | | | | | | 1 | | | | | | | | | | | | | | 2 1.0 | |
| Hyperplasia | 1 | | | | 1 | | | 1 | 1 | 1 | 1 | | | 1 | | | 1 | | | | | 2 | 1 | | | 20 1.3 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | 3 1.7 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | 1 | 1 | | | | | | | | | | 1 | | 1 | | 1 | | | | | | 1 | 1 | | 1 | 12 1.3 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 1.0 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 2 1.5 | |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Pars Distalis, Hyperplasia | 1 | | | | 1 | | | | | | 3 | | 1 | | | 2 | | | 2 | 1 | 1 | 2 | | | | 16 1.8 | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Congestion | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 1.0 | |

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 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------|
| | 0
7
2
8 | 0
7
2
6 | 0
5
0
4 | 0
7
2
7 | 0
7
2
8 | 0
6
8
5 | 0
6
7
6 | 0
7
2
6 | 0
7
2
8 | 0
6
5
4 | 0
7
2
7 | 0
7
2
8 | 0
0
1
6 | 0
6
7
7 | 0
7
2
6 | 0
6
5
8 | 0
7
2
7 | 0
7
2
3 | 0
7
2
6 | 0
7
2
7 | 0
6
8
3 | 0
7
2
8 | 0
6
7
0 | | |
| 0 mg/l | 0
0
2
6 | 0
0
0
7 | 0
0
2
8 | 0
0
2
9 | 0
0
3
0 | 0
0
3
1 | 0
0
3
2 | 0
0
3
3 | 0
0
3
4 | 0
0
3
5 | 0
0
3
6 | 0
0
3
7 | 0
0
3
8 | 0
0
4
0 | 0
0
4
1 | 0
0
4
2 | 0
0
4
3 | 0
0
4
4 | 0
0
4
5 | 0
0
4
6 | 0
0
4
7 | 0
0
4
8 | 0
0
4
9 | 0
0
5
0 | 6 1.3 |
| C-cell, Hyperplasia | 2 | | | | | | 1 | | | | | | 2 | | | | | | 1 | | | | | | 6 1.3 |

GENERAL BODY SYSTEM

Peritoneum + 2

GENITAL SYSTEM

Epididymis + 50

Preputial Gland Inflammation + 50
 1 2 2 2 1 2 1 1 15 1.7

Prostate Hyperplasia + 49
 1 1.0
 Hyperplasia, Adenomatous + 31 1.7
 2 1 2 1 3 2 2 3 1 2 1 1 1 1 1 1 2 2 1

Seminal Vesicle + 50

Testes Atrophy + 50
 3 3.3
 Inflammation, Chronic Active + 12 1.3
 1 2.0
 Interstitial Cell, Hyperplasia 2 1 1 1 2 1 1

HEMATOPOIETIC SYSTEM

Bone Marrow + 50

Lymph Node Congestion + + 9
 1 3.0

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|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 078 | 076 | 054 | 077 | 077 | 066 | 066 | 077 | 077 | 066 | 077 | 077 | 077 | 000 | 066 | 077 | 066 | 077 | 077 | 077 | 077 | 066 | 077 | 066 | |
| 0 mg/l | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | |
| ANIMAL ID | 0026 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | |

Hyperplasia, Lymphoid Mediastinal, Congestion 1 3.0
 Mediastinal, Ectasia 4 1 4.0
 Mediastinal, Hyperplasia 1 3.0

Lymph Node, Mandibular M 0

Lymph Node, Mesenteric Congestion + 50
 1 3.0

Spleen Hematopoietic Cell Proliferation Lymphoid Follicle, Hyperplasia + 3 50
 1 3.0
 1 4.0

Thymus + M 49

INTEGUMENTARY SYSTEM

Mammary Gland Galactoceles Hyperplasia + 50
 1 2 2 1 1 1 12 1.4
 1 3 1.3

Skin Cyst Epithelial Inclusion Hyperplasia, Squamous Inflammation, Suppurative Inflammation, Chronic Active + 50
 2 1 2.0
 4 2 2.5
 2 1 2.0
 1 3.0

MUSCULOSKELETAL SYSTEM

Bone + 50

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| | 0728 | 0726 | 0724 | 0722 | 0720 | 0718 | 0716 | 0714 | 0712 | 0710 | 0708 | 0706 | 0704 | 0702 | 0700 | 0698 | 0696 | 0694 | 0692 | 0690 | 0688 | 0686 | 0684 | | |
| 0 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | |
| ANIMAL ID | 0026 | 0007 | 0004 | 0002 | 0008 | 0005 | 0006 | 0007 | 0002 | 0008 | 0004 | 0007 | 0007 | 0008 | 0001 | 0007 | 0006 | 0008 | 0007 | 0003 | 0006 | 0007 | 0006 | 50 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 50 | |

Hyperostosis 1 1 1.0

NERVOUS SYSTEM

Brain + 50
 Compression 2 5 2.6
 Hemorrhage 1 2.0

RESPIRATORY SYSTEM

Lung + 50
 Inflammation, Suppurative 2 1 2.0
 Alveolar Epithelium, Hyperplasia 2 1 1 1 1 1 12 1.3
 Perivascular, Inflammation, Chronic Active 1 3.0

Nose + 50
 Foreign Body 2 1 1 10 1.4
 Inflammation 2 2 1 3 2 1 1 21 2.0
 Necrosis 1 2.0
 Nasolacrimal Duct, Inflammation 2 1 2.0
 Respiratory Epithelium, Degeneration, Cystic 2 1 2.0
 Respiratory Epithelium, Hyperplasia 2 2 2 1 2 2 3 14 1.9
 Respiratory Epithelium, Ulcer 2 2.0
 Trachea + 49
 Amyloid Deposition 1 2.0
 Glands, Cyst 1 1 2 1.0

SPECIAL SENSES SYSTEM

Ear + + 2

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|--------------------------------------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|-----------|---------------|
| | 07 | 07 | 05 | 07 | 07 | 06 | 06 | 07 | 07 | 06 | 07 | 07 | 07 | 00 | 06 | 07 | 06 | 07 | 07 | 07 | 06 | 07 | 06 | | | |
| 0 mg/l | 28 | 26 | 04 | 27 | 28 | 85 | 76 | 26 | 28 | 54 | 27 | 27 | 28 | 16 | 77 | 26 | 58 | 27 | 13 | 27 | 26 | 83 | 20 | | | |
| | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | | |
| | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | | |
| | 26 | 27 | 28 | 22 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 55 | | | |
| | 68 | 77 | 88 | 99 | 00 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 00 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 50 | | |
| Cyst | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 1.0 | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | 4 | | | | | | | | | 1 4.0 | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cataract | | | | | | | | | | | | | | | 1 | | | | | | | | | 2 1.5 | | |
| Cornea, Inflammation, Chronic Active | | | | | | 3 | | | | | | | | | | | | | | | | | | 1 3.0 | | |
| Sclera, Inflammation, Chronic Active | | | | | | 3 | | | | | | | | | | | | | | | | | | 1 3.0 | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 1.0 | | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | + | | | 1 | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Nephropathy | 3 | 3 | 2 | 4 | 3 | 4 | 2 | 2 | 3 | 2 | 4 | 3 | 3 | | 2 | 4 | 2 | 2 | 3 | 3 | 3 | 2 | 4 | 4 | 3 | 48 3.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
| | 0638 | 0728 | 0778 | 0776 | 0777 | 0776 | 0567 | 0558 | 0758 | 0754 | 0714 | 0764 | 0776 | 0776 | 0664 | 0728 | 0777 | 0774 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | |
| 156.25 mg/l | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus
Hyperplasia, Squamous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 |
| Intestine Large, Rectum
Infiltration Cellular, Mixed Cell
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | 2 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Basophilic Focus | | | | | | X | | | | | | | | | X | X | X | | | X | X | | X | |
| Clear Cell Focus | | X | | X | X | X | | | | | | X | | X | X | | X | | | X | | X | X | |
| Degeneration, Cystic | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | | | | | X | |
| Fatty Change | | | | | | | | | | | | 1 | | | | | | | | | | 1 | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | X | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | X | | | | | | | | | X | | | | | | | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FISCHER 344 RATS MALE | | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 5 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 3 | 2 | 2 | 2 | 2 | 2 | 9 | 8 | 2 | 4 | 1 | 4 | 2 | 2 | 2 | 6 | 2 | 2 | 9 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 8 | 8 | 8 | 6 | 7 | 6 | 7 | 9 | 0 | 4 | 7 | 5 | 6 | 6 | 6 | 4 | 8 | 7 | 8 | 6 | 6 | 6 | 6 | 6 | 6 |
| 156.25 mg/l | 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 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 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...)

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|--|---|---|---|---|---|---|---|--|---|---|---|---|---|---|---|---|--|---|---|--|---|---|---|
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | 1 | 2 | | | | 1 | | | | | 3 | 2 | | | | | | | | 2 | 2 | |
| Bile Duct, Hyperplasia | | | 2 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | | 3 | 3 | | | 1 | |
| Centrilobular, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Periportal, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vein, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | | | | | | | | |
| Duct, Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | 2 | 2 | | 2 | | | | | 3 | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | 3 | | 2 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Erosion | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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 | 0638 | 0728 | 0778 | 0776 | 0777 | 0776 | 0657 | 0578 | 0570 | 0075 | 0074 | 0071 | 0072 | 0077 | 0076 | 0074 | 0077 | 0077 | 0047 | 0072 | 0072 | 0072 | 0077 | 0077 | 0077 | 0077 | males
(cont...) |
| FISCHER 344 RATS MALE | 3 | 8 | 8 | 6 | 7 | 2 | 9 | 8 | 0 | 4 | 1 | 4 | 2 | 2 | 6 | 4 | 8 | 7 | 9 | 2 | 9 | 6 | 6 | 6 | 6 | 6 | |
| 156.25 mg/l | 0 | 0 | 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 | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | 0076 | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Blood Vessel | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aorta, Mineralization | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| Heart | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cardiomyopathy | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 3 | 1 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 4 | 3 | |
| Mineralization | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| Atrium, Thrombosis | | | | | | | | | | | | | | | | 3 | | | | | | | | | | |
| Valve, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|--|---|---|--|---|---|--|---|--|---|---|---|--|---|---|---|---|---|---|---|---|--|--|--|
| Adrenal Cortex | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 1 | 1 | | | 1 | | 2 | 1 | | | | | 1 | | | 1 | 1 | | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | | |
| Adrenal Medulla | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | 1 | | 3 | | | 2 | 2 | | A | | | | | | 1 | | | 1 | | | | | | 2 | | | | |
| Islets, Pancreatic | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | M | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pituitary Gland | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | | | | 3 | | | | | 2 | | | | | A | | | | | 1 | | | | | 1 | | | | |
| Thyroid Gland | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C-cell, Hyperplasia | | | | | | | | | | | 2 | | | | | | 3 | | | | | | | | | | | | |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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. 20009 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
beta-Picoline
CAS Number: 108-99-6

Date Report Requested: 05/27/2011
Time Report Requested: 10:09:56
First Dose M/F: 11/18/04 / 11/19/04
Lab: BAT

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|
| 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 |
| | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 5 | 7 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 7 | 7 |
| 156.25 mg/l | 3 | 2 | 2 | 2 | 2 | 2 | 9 | 8 | 2 | 4 | 1 | 4 | 2 | 2 | 2 | 6 | 2 | 2 | 9 | 2 | 2 | 9 | 2 | 2 | 2 | 2 |
| | 8 | 8 | 8 | 6 | 7 | 6 | 7 | 9 | 0 | 4 | 7 | 5 | 6 | 6 | 6 | 4 | 8 | 7 | 7 | 8 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 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...) |

Follicular Cell, Hyperplasia

1

GENERAL BODY SYSTEM

Peritoneum

GENITAL SYSTEM

Epididymis

Degeneration, Fatty

+
2

Preputial Gland

Cyst
Hyperplasia, Squamous
Inflammation

+
2
1 2 1 1

Prostate

Inflammation

+
1 1 2 1 1 1 2 1 4 1 1 1 2 3 1 1 2 2 2

Seminal Vesicle

Dilatation

+
3

Testes

Atrophy
Interstitial Cell, Hyperplasia

+
3 3 3 2 1 1 1 2 1

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node

+ + + + + + + +

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
| | 0638 | 0728 | 0778 | 0778 | 0778 | 0778 | 0657 | 0579 | 0579 | 0579 | 0675 | 0775 | 0775 | 0775 | 0775 | 0676 | 0776 | 0776 | 0776 | 0472 | 0772 | 0772 | 0772 | 0772 | 0772 | | |
| 156.25 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00051 | |

Deep Cervical, Hemorrhage
 Mediastinal, Ectasia
 Mediastinal, Hyperplasia
 Mediastinal, Infiltration Cellular, Mixed Cell

2
 3

Lymph Node, Mandibular

M M

Lymph Node, Mesenteric
 Ectasia

+ +

Spleen
 Hyperplasia, Lymphoid
 Capsule, Hemorrhage
 Lymphoid Follicle, Depletion Cellular

+
 2
 3

Thymus

+ +

INTEGUMENTARY SYSTEM

Mammary Gland
 Galactocele
 Hyperplasia
 Inflammation

+ M
 1
 1
 2

Skin
 Inflammation, Chronic Active
 Subcutaneous Tissue, Infiltration Cellular,
 Mixed Cell

+
 3

MUSCULOSKELETAL 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | | | | | | | |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|------|---|---|---|---|---|---|---|---|---|
| | 0638 | 0728 | 0778 | 0778 | 0778 | 0778 | 0659 | 0578 | 0759 | 0759 | 0776 | 0777 | 0777 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | | | 0776 | | | | | | | | | |
| 156.25 mg/l | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | 000051 | | | | | | | | | | | |
| Bone Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 3 | | | | | | | | | | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain Compression | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 | 2 | 3 | 2 | 3 | | | | | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung Alveolar Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | 2 | 1 | 1 | 2 | | | | | | | |
| Lung Alveolar Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose Foreign Body | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | | | | | |
| Nose Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 2 |
| Nose Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose Respiratory Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 1 | | 1 | 2 | 2 |
| Nose Respiratory Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose Squamous Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye Cataract | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Eye Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|-----------|--------------------|
| | 0
6
3
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
6 | 0
7
2
7 | 0
7
2
6 | 0
6
2
7 | 0
5
9
9 | 0
7
8
0 | 0
5
2
4 | 0
7
1
7 | 0
6
4
5 | 0
7
2
6 | 0
7
2
6 | 0
6
6
4 | 0
7
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8 | 0
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7 | 0
4
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7 | 0
7
2
6 | 0
7
2
6 | 0
7
2
6 | 0
7
2
6 | 0
7
2
6 | 0
7
2
6 | | | |
| 156.25 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0
0
0
5
1 | | |

Harderian Gland

+ +

URINARY SYSTEM

| | |
|--------------------------------------|---|
| Kidney | + |
| Dilatation | 1 |
| Infarct, Acute | 2 |
| Metaplasia, Osseous | 1 |
| Nephropathy | 3 3 4 3 4 4 4 2 2 2 3 4 4 4 3 4 3 3 4 2 4 3 4 4 3 |
| Medulla, Renal Tubule, Necrosis | 2 |
| Pelvis, Inflammation, Chronic Active | |
| Renal Tubule, Hyperplasia | |
| Urinary Bladder | + |
| Hemorrhage | 2 |
| Inflammation, Suppurative | 4 |
| Transitional Epithelium, Hyperplasia | 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

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 2) Mild 4) Marked

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 beta-Picoline
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 Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS |
|-----------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|----------|
| DAY ON TEST | | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 6 | 7 | 6 | 6 | 6 | 7 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | | |
| FISCHER 344 RATS MALE | | 2 | 2 | 6 | 2 | 2 | 2 | 2 | 6 | 9 | 2 | 7 | 9 | 8 | 2 | 8 | 2 | 2 | 2 | 2 | 6 | 2 | 2 | * TOTALS | |
| 156.25 mg/l | | 8 | 6 | 6 | 7 | 7 | 6 | 8 | 7 | 4 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 8 | 6 | 6 | 9 | 3 | 7 | | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | * TOTALS | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Esophagus
Hyperplasia, Squamous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 |
| Intestine Large, Cecum | + | + | A | + | + | + | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | 47 | | |
| Intestine Large, Colon
Parasite Metazoan | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 4 | 2.0 |
| Intestine Large, Rectum
Infiltration Cellular, Mixed Cell
Parasite Metazoan | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 | 1.0 |
| | | | | | | | | | | | | | | | | | | | | | | | 1 | | 5 | 1.4 |
| Intestine Small, Duodenum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | A | + | + | + | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | 47 | | 1.0 |
| | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | |
| Intestine Small, Jejunum | + | + | A | + | + | + | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | 47 | | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Basophilic Focus | | X | | | X | X | | | | | | X | X | | | | | X | | X | | | | 14 | | |
| Clear Cell Focus | X | X | | X | X | X | X | | | | | X | X | | X | | | X | | X | | | | 23 | | |
| Degeneration, Cystic | | | 1 | | | | | | | 2 | | | | | | | 1 | 1 | | 1 | | | | 6 | | 1.2 |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Fatty Change | | | | | | | | | | | 3 | | 1 | | 2 | | | | | | | 1 | | 6 | | 1.5 |
| Hepatodiaphragmatic Nodule | | | | | | | | | X | | | | | | | | | | | | | X | | 3 | | |
| Inflammation, Chronic Active | | | | | | | | | 1 | | | | | | 1 | | 2 | | | | | | | 3 | | 1.3 |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | X | | | | 3 | | |

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 + .. Tissue examined microscopically
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 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE
156.25 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
|--------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|--------|--------|
| | 078 | 076 | 077 | 077 | 077 | 077 | 075 | 066 | 076 | 076 | 066 | 076 | 076 | 076 | 076 | 076 | 076 | 076 | 076 | 076 | | 076 | | |
| ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | | | |
| Necrosis | | | | | | | | | | | | | | | | 2 | 2 | 3 | | | | 3 2.3 | | |
| Vacuolization Cytoplasmic | 1 | | 1 | 2 | 3 | | | 1 | | | | | | | | | | | | | | 12 1.8 | | |
| Bile Duct, Hyperplasia | 1 | | 3 | 3 | 1 | 3 | 2 | | | | 3 | | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 36 2.8 | | |
| Centrilobular, Atrophy | | | | | | | | | | | | 3 | | | | | | | | | | 1 3.0 | | |
| Periportal, Fibrosis | | | | | | | | | | | | | | | | | | 3 | | | | 1 3.0 | | |
| Vein, Dilatation | | | | | | | | | | 2 | | | | | | | | | | | | 1 2.0 | | |
| Mesentery | | | | | | | + | | | | | | + | | | + | | | | + | + | 8 | | |
| Fat, Necrosis | | | | | | | 1 | | | | | | | | | | | | | 1 | 2 | 6 1.3 | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Infiltration Cellular | | | | | | | | | | | | | | | | | 1 | | | | | 1 1.0 | | |
| Acinus, Atrophy | 1 | 3 | 3 | 2 | | | 1 | 1 | 1 | 1 | | | | 2 | 1 | | | 1 | 1 | 1 | 2 | 1 | 3 | 31 1.6 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | | | | 1 | | 1 1.0 | |
| Duct, Inflammation | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Fibrosis | | | | | | | | | | | | | | | | | | 2 | | | 2 | | 6 2.2 | |
| Hyperplasia, Squamous | | | | | | | 1 | | | | | | 3 | 3 | 2 | | | 2 | 2 | | 3 | | 18 2.0 | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | |
| Ulcer | | | | | | | | | | | | | 3 | | | | | | | | 2 | | 5 2.6 | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | 3 | | 1 3.0 | |
| Erosion | | | | | | | | | | | | | | | | | | | 1 | | 1 | | 3 1.3 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | 1 | | | | | | | 1 | | 6 1.2 | |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | |

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 + .. Tissue examined microscopically
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 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

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

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|-------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Aorta, Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cardiomyopathy | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 50 2.8 | |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Atrium, Thrombosis | | | | | | | | 2 | 2 | | | | | | 2 | | | 3 | | | | | | 5 2.4 | |
| Valve, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | 4 | | | | | | 1 4.0 | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | 2 | 3 | 2 | 1 | | | 2 | | 1 | 1 | | 2 | 1 | 2 | | 1 | | 2 | 1 | | 3 | | 1 | 2 | 31 1.5 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Hyperplasia | | | 2 | | | 1 | | | 2 | | | 1 | | | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 18 1.4 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 1.0 | |
| Parathyroid Gland | + | + | + | + | + | + | | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Pars Distalis, Hyperplasia | 2 | | 1 | | 2 | | | | 2 | | | | | | | | | 1 | 1 | | | 1 | | 11 1.5 | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| C-cell, Hyperplasia | 1 | | | 2 | | | | | | | | | | | | | | | | | | | | 4 2.0 | |
| Follicle, Cyst | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 1.0 | |

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 beta-Picoline
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 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----------|
| | 078 | 076 | 077 | 072 | 072 | 076 | 077 | 075 | 066 | 067 | 066 | 066 | 067 | 066 | 067 | 068 | 066 | 067 | 067 | 067 | 066 | 067 | 067 | | |
| 156.25 mg/l | 0076 | 0076 | 0077 | 0072 | 0072 | 0076 | 0077 | 0075 | 0066 | 0067 | 0066 | 0066 | 0067 | 0066 | 0067 | 0068 | 0066 | 0067 | 0067 | 0067 | 0066 | 0067 | 0067 | 50 | |
| | 0076 | 0076 | 0077 | 0072 | 0072 | 0076 | 0077 | 0075 | 0066 | 0067 | 0066 | 0066 | 0067 | 0066 | 0067 | 0068 | 0066 | 0067 | 0067 | 0067 | 0066 | 0067 | 0067 | 50 | |

Follicular Cell, Hyperplasia

1 1.0

GENERAL BODY SYSTEM

Peritoneum

+

1

GENITAL SYSTEM

Epididymis
 Degeneration, Fatty

+ 50
 1 2.0

Preputial Gland
 Cyst
 Hyperplasia, Squamous
 Inflammation

+ 50
 1 2.0
 3
 1 3.0
 2 2 2 1 1 3 1 1
 10 1.4

Prostate
 Inflammation

+ 50
 2 2 1 2 1 2 1 2 2 2 2 2 2 2 4 1 2 1 2 1 1 1
 45 1.6

Seminal Vesicle
 Dilatation

+ 50
 1 3.0

Testes
 Atrophy
 Interstitial Cell, Hyperplasia

+ 50
 4 3 3
 1 1 1 1 1 1 1 1 1
 9 2.9
 18 1.1

HEMATOPOIETIC SYSTEM

Bone Marrow

+ 50

Lymph Node

+ 11

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|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 078 | 076 | 072 | 077 | 077 | 077 | 075 | 066 | 067 | 066 | 066 | 067 | 066 | 067 | 067 | 067 | 067 | 066 | 067 | 067 | |
| 156.25 mg/l | 0076 | 0076 | 0076 | 0077 | 0077 | 0077 | 0075 | 0066 | 0067 | 0066 | 0066 | 0067 | 0066 | 0067 | 0067 | 0067 | 0066 | 0067 | 0067 | 0067 | 0067 |
| ANIMAL ID | 0076 | 0076 | 0076 | 0077 | 0077 | 0077 | 0075 | 0066 | 0067 | 0066 | 0066 | 0067 | 0066 | 0067 | 0067 | 0067 | 0066 | 0067 | 0067 | 0067 | 0067 |

| | | |
|--|---|-------|
| Deep Cervical, Hemorrhage | 1 | 2.0 |
| Mediastinal, Ectasia | 1 | 3.0 |
| Mediastinal, Hyperplasia | 1 | 2.0 |
| Mediastinal, Infiltration Cellular, Mixed Cell | 2 | 1 2.0 |

| | | |
|------------------------|---|---|
| Lymph Node, Mandibular | M | 0 |
|------------------------|---|---|

| | | | |
|--------------------------------|---|----|-------|
| Lymph Node, Mesenteric Ectasia | + | 50 | 2 1.5 |
| | 1 | 2 | |

| | | | |
|---|---|----|-------|
| Spleen | + | 50 | 1 3.0 |
| Hyperplasia, Lymphoid Capsule, Hemorrhage | | 3 | 1 2.0 |
| Lymphoid Follicle, Depletion Cellular | | | 1 3.0 |

| | | |
|--------|---|----|
| Thymus | + + + + + + + + + + + + + + + + + M + + + + + + + | 49 |
|--------|---|----|

INTEGUMENTARY SYSTEM

| | | | |
|---------------|---|---------|-------|
| Mammary Gland | + | 49 | 7 1.1 |
| Galactocele | | 2 1 1 1 | 6 1.2 |
| Hyperplasia | 1 | 1 | 1 1.0 |
| Inflammation | | | |

| | | | |
|--|---|----|-------|
| Skin | + | 50 | 1 3.0 |
| Inflammation, Chronic Active | | | 1 1.0 |
| Subcutaneous Tissue, Infiltration Cellular, Mixed Cell | | 1 | |

MUSCULOSKELETAL 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|
| | 078 | 076 | 072 | 077 | 077 | 072 | 072 | 076 | 079 | 072 | 077 | 079 | 078 | 072 | 076 | 077 | 077 | 077 | 076 | 077 | | 077 |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | * TOTALS | |
| | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | | 00096 |
| Bone Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Brain Compression | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | 2 | | | | | | | | 4 | 3 | | | | | | | | | | 3 | 9 2.7 |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Lung Alveolar Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lung Alveolar Epithelium, Metaplasia, Squamous | | | | 1 | | | | 4 | | 1 | 1 | | | | 1 | | | | 1 | | | 11 1.5 |
| Nose Foreign Body | | | | | 1 | | | | 2 | 1 | | 2 | 1 | 1 | | | 3 | 2 | | 1 | | 20 1.5 |
| Nose Inflammation | | | | | 1 | | | | 2 | 2 | | 2 | 2 | 1 | | | 3 | 2 | | 1 | 1 | 23 2.0 |
| Nose Mineralization | | | | | | | | | | 1 | | | | | | | | | | | | 1 1.0 |
| Nose Respiratory Epithelium, Hyperplasia | | | | | 1 | | | | | 1 | | | | 2 | | | 3 | 2 | | 2 | | 20 1.8 |
| Nose Respiratory Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Nose Squamous Epithelium, Hyperplasia | | | | | | 2 | | | | | | | | | | | | | | | | 1 2.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Eye Cataract | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Eye Retina, Degeneration | | | | | | | | | | | | | | | | 1 | | | | 1 | | 3 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--------------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|--------|--|----------|
| | 078 | 076 | 077 | 077 | 077 | 077 | 075 | 066 | 067 | 066 | 066 | 067 | 066 | 067 | 067 | 067 | 067 | 067 | 067 | 066 | 067 | 067 | 067 | | | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0076 | 0076 | 0077 | 0077 | 0077 | 0077 | 0075 | 0066 | 0067 | 0066 | 0066 | 0067 | 0066 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0066 | 0067 | 0067 | 0067 | | | |
| | 0077 | 0077 | 0078 | 0078 | 0078 | 0078 | 0078 | 0088 | 0088 | 0088 | 0088 | 0088 | 0088 | 0088 | 0089 | 0089 | 0089 | 0089 | 0089 | 0089 | 0089 | 0089 | 0089 | | | |
| | 0068 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | 0076 | 0077 | 0078 | 0079 | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Dilatation | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | | |
| Infarct, Acute | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | | |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | | |
| Nephropathy | 4 | 4 | 2 | 3 | 3 | 3 | 4 | 3 | 2 | 3 | 4 | 1 | 4 | 3 | 4 | 4 | 3 | 4 | 3 | 3 | 4 | 3 | 4 | 50 3.3 | | |
| Medulla, Renal Tubule, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Pelvis, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Renal Tubule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | | |
| 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
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
| | 0728 | 0726 | 0729 | 0733 | 0737 | 0761 | 0777 | 0776 | 0767 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | | |
| 312.5 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0011001 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0011001 | |
| | 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 | 0011001 | |
| | 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 | 0011001 | |
| | 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 | 0011001 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | |
| Intestine Large, Rectum
Parasite Metazoan | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | |
| Basophilic Focus | X | | | X | | | | X | X | | | X | X | | X | | | | | | X | | X | |
| Clear Cell Focus | X | X | | X | | | X | X | | X | | X | X | X | X | | | | | | X | | X | |
| Degeneration, Cystic | | | | | | | 1 | | | | | | | | | | | | | | | | 1 | |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatty Change | | | | | | | | | | | | | | 1 | | | | | | | 1 | | 1 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | X | | | | | | X | | | | | X | | | X | | | | | X | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|-----------|--------------------|
| | 0
7
2
8 | 0
7
2
6 | 0
5
6
9 | 0
3
7
3 | 0
7
2
8 | 0
6
8
1 | 0
7
2
6 | 0
7
2
6 | 0
6
5
7 | 0
7
2
7 | 0
7
2
7 | 0
6
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
6
2
8 | 0
7
2
3 | 0
6
4
7 | 0
7
2
6 | 0
6
1
5 | 0
7
2
7 | 0
7
2
8 | 0
7
2
6 | 0
7
2
7 | | | |
| Vacuolization Cytoplasmic
Bile Duct, Hyperplasia
Centrilobular, Necrosis
Periportal, Inflammation | | | | | 1 | | | | | | | 2 | 2 | | | | 1 | | | 1 | | | | | | | |
| Mesentery
Fat, Necrosis | 3 | 3 | | | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | | | 3 | 3 | 3 | 3 | | | 3 | 3 | 2 | 2 | 2 |
| Pancreas
Cyst
Infiltration Cellular
Acinus, Atrophy | + | + | + | + | + | + | + | + | + | + | + | 2 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Salivary Glands
Atrophy | 1 | 1 | 1 | | 1 | | | | | 1 | | | | 1 | 1 | 1 | 1 | | 1 | 2 | | | 1 | 1 | | 1 | |
| Stomach, Forestomach
Edema
Fibrosis
Hyperplasia, Squamous
Ulcer | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Stomach, Glandular
Inflammation, Chronic Active | | | | | | 3 | | | | | | | | | | | | | | | | | | | | | |
| 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
 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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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|--------------------|
| | 0
7
2
8 | 0
7
2
6 | 0
5
6
9 | 0
3
9
3 | 0
7
2
8 | 0
6
8
1 | 0
7
2
6 | 0
7
2
6 | 0
6
5
7 | 0
7
2
7 | 0
7
2
2 | 0
7
2
2 | 0
7
2
0 | 0
7
2
2 | 0
7
2
2 | 0
7
2
8 | 0
6
7
3 | 0
7
4
2 | 0
6
2
1 | 0
7
2
5 | 0
6
2
7 | 0
7
2
2 | 0
7
2
8 | 0
7
2
6 | | | |
| 312.5 mg/l | 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
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1
0 | 0
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1 | 0
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1
2 | 0
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1
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3 | 0
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1
1
4 | 0
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5 | 0
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6 | 0
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7 | 0
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1
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8 | 0
0
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2
9 | 0
0
1
2
0 | 0
0
1
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1 | 0
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1
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2 | 0
0
1
2
3 | 0
0
1
2
4 | 0
0
1
2
5 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cardiomyopathy | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | 1 | 1 | | | | 1 | | | | 2 | 1 | 2 | 2 | 1 | 1 | | | 1 | | 1 | | 1 | 1 | 1 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | 1 | | | | | | 1 | | | | 1 | 2 | | | 1 | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | I |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | 3 | | | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | 1 | | 2 | 1 | 2 | 2 | 4 | | 1 | | 2 | | | 2 | | 1 | | | | | | | 1 | |
| Pars Intermedia, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Nervosa, Hyperplasia | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| C-cell, Hyperplasia | | | | | 1 | | 1 | | | | | | | 1 | | | 1 | | 1 | 1 | | | | |
| Follicular Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Peritoneum | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

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 1) Minimal 3) Moderate
 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FISCHER 344 RATS MALE | 7 | 7 | 5 | 3 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 7 |
| | 2 | 2 | 6 | 9 | 2 | 8 | 2 | 2 | 5 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 7 | 4 | 2 | 1 | 2 | 2 | 2 |
| | 8 | 6 | 9 | 3 | 8 | 1 | 6 | 6 | 7 | 7 | 7 | 8 | 1 | 7 | 7 | 8 | 3 | 7 | 6 | 7 | 5 | 7 | 7 | 6 |
| 312.5 mg/l | 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 |
| | 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 | 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 |

males (cont...)

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node
Mediastinal, Ectasia
Mediastinal, Hemorrhage
Mediastinal, Hyperplasia | | + | | + | | | | | | | | | | | | | | | | | | | |
| | 3 4 | | | | | | | | | | | | | | | | | | | | | | |
| 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, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | | | | | | | | | | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|-----------|--------------------|---|--|---|---|--|---|---|---|---|--|---|--|--|--|
| | 0
7
2
8 | 0
7
2
6 | 0
5
6
9 | 0
3
7
3 | 0
7
2
8 | 0
6
8
1 | 0
7
2
6 | 0
7
2
6 | 0
6
5
7 | 0
7
2
7 | 0
6
2
7 | 0
7
2
7 | 0
7
2
7 | 0
6
2
7 | 0
7
2
7 | 0
6
2
8 | 0
7
2
3 | 0
6
4
7 | 0
6
2
7 | 0
6
2
5 | 0
7
2
7 | 0
6
2
8 | 0
7
2
2 | 0
7
2
6 | | | | | | | | | | | | | | | | | |
| Ectasia
Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | |
| Spleen
Inflammation, Granulomatous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | | | | | | |
| Thymus | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | M | | | | | | | | | | | | | | | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Galactocele | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | 3 | | 1 | | | 2 | 2 | | | | | | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | | | | | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | | | | | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain
Compression
Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | 1 | | 3 | | | 3 | | 2 | 3 | | | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung
Alveolar Epithelium, Hyperplasia
Perivascular, Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | | 1 | | 1 | | 1 | | | 1 | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | | | | | | | |

* .. 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

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | 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 |
| 312.5 mg/l | 7 | 7 | 5 | 3 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 0 | 0 |
| | 2 | 2 | 6 | 9 | 2 | 8 | 2 | 2 | 5 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 7 | 4 | 2 | 1 | 2 | 2 | 2 | 0 | 0 |
| | 8 | 6 | 9 | 3 | 8 | 1 | 6 | 6 | 7 | 7 | 7 | 1 | 7 | 7 | 7 | 8 | 3 | 7 | 6 | 7 | 5 | 7 | 7 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 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 | 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 |
| Foreign Body | 1 | 1 | | | | | | 2 | 1 | | | | | 2 | | 1 | | 1 | | 2 | 2 | 1 | | | |
| Inflammation | 1 | 2 | | | | | | 2 | 2 | | | | | 2 | | 1 | | 1 | | 2 | 3 | 2 | | | |
| Nasolacrimal Duct, Foreign Body | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| Nasolacrimal Duct, Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| Nasolacrimal Duct, Inflammation | | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Respiratory Epithelium, Hyperplasia | 1 | 1 | | | | | | 2 | 2 | | | | | 1 | | 1 | | 1 | | 2 | 2 | | | | |
| Squamous Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cataract | | | | | | | | 4 | | | | | | | | | | | | | | | | | |
| Cornea, Hyperplasia, Squamous | | 1 | | | | | | | | | | | | | | | | | | | 2 | | | | |
| Retina, Degeneration | | | | | | | | 4 | | | | | | | | | | | | | | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia | | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| Zymbal's Gland | | | | | | | | | + | | | | | | | | | | | | | | | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Infarct, Acute | | | | | | 3 | | | | | | | | | | | | | | | | | | | |
| Nephropathy | 2 | 3 | 2 | 2 | 3 | 2 | 4 | 4 | 3 | 3 | 2 | 3 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 3 |
| Pelvis, Inflammation, Chronic Active | | | | | | | | 1 | | | | | | | | | | | | | | | | 4 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

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 + .. Tissue examined microscopically
 X .. Lesion present
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TDMS No. 20009 - 03
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Species/Strain: RATS/F 344/N

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beta-Picoline
CAS Number: 108-99-6

Date Report Requested: 05/27/2011
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| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|-----------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|------|--|
| | 0726 | 0727 | 0728 | 0729 | 0730 | 0731 | 0732 | 0733 | 0734 | 0735 | 0736 | 0737 | 0738 | 0739 | 0740 | 0741 | 0742 | 0743 | 0744 | 0745 | | 0746 | 0747 | 0748 | 0749 | 0750 | |
| 312.5 mg/l | 00126 | 00127 | 00128 | 00129 | 00130 | 00131 | 00132 | 00133 | 00134 | 00135 | 00136 | 00137 | 00138 | 00139 | 00140 | 00141 | 00142 | 00143 | 00144 | 00145 | 00146 | 00147 | 00148 | 00149 | 00150 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|--|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | 48 | | | |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Parasite Metazoan | | | | | | | | 2 | | | | | | 1 | 2 | | | | | | | | | 2 | 1 | | 7 | 1.4 | | |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Parasite Metazoan | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1.7 | | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | 48 | | | |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | 48 | | | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Angiectasis | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Atrophy | | | | | | | | | | | | | | | | | | | 3 | | | | | | | | | 1 | 3.0 | |
| Basophilic Focus | | X | | | | | X | | | | X | X | | X | | | X | | | | X | | | | | | | 16 | | |
| Clear Cell Focus | | X | | X | X | X | X | | | X | X | | | | | | | | | | X | | | | | | | 20 | | |
| Degeneration, Cystic | 1 | 1 | 2 | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | 7 | 1.3 | |
| Eosinophilic Focus | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | 2 | | |
| Fatty Change | | | | | | | | | | | 1 | | | 1 | | | 1 | | | | | | | | | 2 | | 7 | 1.1 | |
| Fibrosis | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Hepatodiaphragmatic Nodule | X | | | | | | | | | | | | | | | X | | | | | | | | | | | | 2 | | |
| Inflammation, Chronic Active | | | | | | | | | | | 1 | | | | | | 2 | | | | | | | | | | | 3 | 1.3 | |
| Mixed Cell Focus | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 6 | | |

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| FISCHER 344 RATS MALE
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|--------------------------|
| | 0
7
2
6 | 0
7
2
7 | 0
6
1
8 | 0
7
2
7 | 0
7
2
7 | 0
5
2
6 | 0
7
2
7 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
6
4
3 | 0
7
2
7 | 0
7
2
8 | 0
6
2
6 | 0
6
4
6 | 0
7
2
6 | 0
6
6
2 | 0
7
2
8 | 0
7
2
3 | 0
7
2
2 | 0
7
2
1 | 0
7
2
0 | 0
7
2
2 | 0
7
2
6 | 0
7
2
1 | | |
| 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 | 0
0
1
4
0 | | |
| Vacuolization Cytoplasmic
Bile Duct, Hyperplasia
Centrilobular, Necrosis
Periportal, Inflammation | 1
3 | 2
3 | | | 2
3 | 2
3 | | | | | | | | 2
3 | | | | | | 1
2 | | | | | 1
2 | 12
44
1
1 | 1.5
2.8
2.0
2.0 |
| Mesentery
Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 4
3 | |
| Pancreas
Cyst
Infiltration Cellular
Acinus, Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2
1
31 | 2.5
2.0
1.4 |
| Salivary Glands
Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | 2.0 |
| Stomach, Forestomach
Edema
Fibrosis
Hyperplasia, Squamous
Ulcer | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1
2
7
2 | 3.0
2.5
1.9
2.5 |
| Stomach, Glandular
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
4 | 1.8 |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | |
| 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 | |
| | 7 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | |
| 312.5 mg/l | 2 | 2 | 1 | 2 | 2 | 2 | 8 | 2 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 4 | 9 | 2 | 1 | 2 | 0 | 2 | |
| | 6 | 7 | 8 | 7 | 7 | 6 | 6 | 7 | 8 | 7 | 3 | 7 | 8 | 6 | 6 | 8 | 6 | 2 | 8 | 3 | 2 | 1 | |
| | 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 | |
| | | 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 | |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|------------|
| Heart | | | | | | | | | | | | | | | | | | | | | | 50 | | |
| Cardiomyopathy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2.9 |
| | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|------------|
| Adrenal Cortex | | | | | | | | | | | | | | | | | | | | | | 50 | | |
| Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 27 | 1.4 |
| Necrosis | 1 | 2 | 2 | 1 | 2 | 2 | | 3 | | | | 1 | | 1 | | 1 | | | | 1 | 2 | | 1 | 1.0 |
| Adrenal Medulla | | | | | | | | | | | | | | | | | | | | | | 49 | | |
| Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 13 | 1.3 |
| | 1 | | | | 2 | | 2 | 2 | | | | 1 | | | | 1 | | | 1 | | | 1 | | |
| Islets, Pancreatic | | | | | | | | | | | | | | | | | | | | | | 50 | | |
| Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | 2.0 |
| Parathyroid Gland | | | | | | | | | | | | | | | | | | | | | | 48 | | |
| Pituitary Gland | | | | | | | | | | | | | | | | | | | | | | 50 | | |
| Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 | 2.0 |
| Pars Distalis, Hyperplasia | | 2 | 1 | | 1 | 2 | 2 | | | | | | 2 | | | | | | | 3 | | 2 | 19 | 1.8 |
| Pars Intermedia, Hyperplasia | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Pars Nervosa, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Thyroid Gland | | | | | | | | | | | | | | | | | | | | | | 50 | | |
| C-cell, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 11 | 1.1 |
| Follicular Cell, Hyperplasia | 1 | | | 2 | | 1 | 1 | | | | | | 1 | | | | | | | | | 1 | 1 | 1.0 |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------|----------|----------|
| Peritoneum | | | | | | | | | | | | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE
312.5 mg/l | DAY ON TEST | 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 | * TOTALS |
|-------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------|
| | 7 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | 2 | 2 | 1 | 2 | 2 | 2 | 8 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 4 | 2 | 4 | 9 | 2 | 1 | 2 | 0 | 2 | 2 | 2 | | |
| | 6 | 7 | 8 | 7 | 7 | 6 | 6 | 7 | 8 | 7 | 3 | 7 | 8 | 6 | 6 | 8 | 6 | 2 | 8 | 3 | 2 | 1 | 7 | 7 | 7 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 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 | | |
| | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |
| | 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 | | |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|--------|--------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic Active | | | | | | | | | | 3 | | | | | | | | | | | | | | | | 2 3.0 | |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation | | | | | | | | | | | | 2 | | | 1 | | | 3 | | | 1 | 1 | 1 | | | 10 1.3 | |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation | | 2 | 4 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | | 1 | 2 | 1 | 1 | 2 | 3 | | 45 1.7 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 2 2.0 | |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Atrophy | | | | | | | | | | 2 | | | | | | | | 3 | | | | | | | | 5 2.4 | |
| Interstitial Cell, Hyperplasia | 1 | | | | | | | | | 1 | 1 | 1 | | | 1 | | 1 | | | 1 | 1 | | 1 | | 17 1.1 | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Lymph Node | + | | + | | | | | | | + | + | | | | | | | + | | | | | | | 11 | |
| Mediastinal, Ectasia | | | | | | | | | 3 | | | | 3 | | | | | | | | | | | | | 4 3.3 |
| Mediastinal, Hemorrhage | 2 | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mediastinal, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 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 | 0 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----------------------|--|
| | 0726 | 0727 | 0728 | 0729 | 0730 | 0731 | 0732 | 0733 | 0734 | 0735 | 0736 | 0737 | 0738 | 0739 | 0740 | 0741 | 0742 | 0743 | 0744 | 0745 | 0746 | 0747 | 0748 | 0749 | | | |
| 312.5 mg/l | 00126 | 00127 | 00128 | 00129 | 00130 | 00131 | 00132 | 00133 | 00134 | 00135 | 00136 | 00137 | 00138 | 00139 | 00140 | 00141 | 00142 | 00143 | 00144 | 00145 | 00146 | 00147 | 00148 | 00149 | 00150 | | |
| Ectasia
Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.0
1 1.0 | |
| Spleen
Inflammation, Granulomatous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 3.0 | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | 45 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Galactocele | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
9 1.7 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain
Compression
Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
8 2.3
2 2.0 | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung
Alveolar Epithelium, Hyperplasia
Perivascular, Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
12 1.0
1 2.0 | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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
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 1) Minimal 3) Moderate
 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

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 beta-Picoline
 CAS Number: 108-99-6

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 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| | 0726 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | |
| ANIMAL ID | 001267 | 001268 | 001269 | 001270 | 001271 | 001272 | 001273 | 001274 | 001275 | 001276 | 001277 | 001278 | 001279 | 001280 | 001281 | 001282 | 001283 | 001284 | 001285 | 001286 | 001287 | 001288 | 001289 | 001290 | |
| Foreign Body | 2 | 3 | | | | | | | | | | | | | 1 | 2 | 1 | | | | | | | | |
| Inflammation | 2 | 3 | | | | | | | 1 | 2 | | | | | | | 2 | 2 | | | | | | | |
| Nasolacrimal Duct, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nasolacrimal Duct, Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nasolacrimal Duct, Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | 2 | 2 | | | | | | | | | | 2 | | | 1 | 2 | 2 | | | | | | | | |
| Squamous Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cataract | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Cornea, Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 2 1.5 | |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | | | | 2 | | | | | | | | | | 2 1.5 | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Infarct, Acute | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Nephropathy | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 3 | 2 | 3 | 2 | 3 | 3 | 4 | 2 | 2 | 3 | 4 | 4 | 2 | 4 | 3 | 3 | 4 3 | |
| Pelvis, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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
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TDMS No. 20009 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
beta-Picoline
CAS Number: 108-99-6

Date Report Requested: 05/27/2011
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* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------------------------------|
| FISCHER 344 RATS MALE

625 mg/l | DAY ON TEST | 07 | 07 | 07 | 07 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 05 | 05 | 07 | 07 | 06 | 06 | 07 | 06 | 07 | 05 | 07 | 07 | 06 | males
(cont...) |
| | | 00 | 02 | 02 | 02 | 02 | 02 | 04 | 02 | 02 | 02 | 05 | 06 | 02 | 02 | 06 | 07 | 07 | 09 | 02 | 08 | 01 | 02 | 05 | 07 | |
| | ANIMAL ID | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Basophilic Focus | | | | | | X | | | | | | | | | | X | | | X | | | | | |
| Clear Cell Focus | | | | X | X | X | X | | | | | | | X | X | | | X | | | | | X | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Eosinophilic Focus | | | | | | X | X | | X | | | | | | | | | | | | | | | |
| Fatty Change | 2 | | | | | | | | | | | 2 | | | | 3 | | 2 | | | | 1 | | |
| Hepatodiaphragmatic Nodule | X | X | | | | | | | | | | | | | | X | | | | | | | | |
| Inflammation, Chronic Active | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | X | | | | | | | X | |
| Necrosis | | | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | |
|-----------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|-----------|--------------------|--|
| | 070227 | 070722 | 070727 | 070732 | 070737 | 070742 | 070747 | 070752 | 070757 | 070802 | 070807 | 070812 | 070817 | 070822 | 070827 | 070832 | 070837 | 070842 | 070847 | 070852 | 070857 | 070902 | 070907 | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00151 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vacuolization Cytoplasmic Bile Duct, Hyperplasia | | | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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|-------------------------|--|--|--|--|--|--|--|--|---|---|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|---|--|
| Mesentery Fat, Necrosis | | | | | | | | | + | + | | | | | | | | | | + | | | | | | + | |
|-------------------------|--|--|--|--|--|--|--|--|---|---|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|---|--|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pancreas Hyperplasia Lipomatosis Acinus, Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stomach, Forestomach Fibrosis Hyperplasia, Squamous Inflammation Ulcer | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stomach, Glandular Inflammation, Chronic Active Ulcer | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Tongue

CARDIOVASCULAR SYSTEM

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

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Heart Cardiomyopathy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|-----------------------|--|
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1 | |

Epicardium, Inflammation, Chronic Active

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 1 | 1 | | | | 1 | 1 | | | 2 | 1 | | | | | 1 | | 1 | | | | | 1 | | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | 3 | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia | 1 | | | 2 | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia | | | | | | | | | | 2 | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Metaplasia, Osseous | | | | | | | | | | 1 | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | | 1 | | | 1 | | 1 | 3 | | | | 2 | 3 | | | | | | | | | 1 | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| C-cell, Hyperplasia | | | | 2 | | | | | | | 2 | | | | | | | 1 | | 3 | | | | | | |
| Follicle, Cyst | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Peritoneum | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|--------------------|
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2 | 0
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2 | | |
| 625 mg/l | 0 | 0 | 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
5
1 | males
(cont...) |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 |
| Preputial Gland
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1
2
2 |
| Prostate
Hyperplasia
Hyperplasia, Adenomatous
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1
2
2
3
1
3
1
2
1 |
| Seminal Vesicle
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Testes
Atrophy
Interstitial Cell, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1
2
3
1 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Lymph Node
Deep Cervical, Ectasia
Deep Cervical, Infiltration Cellular
Mediastinal, Ectasia | + | | | | | | | | | | | | | | | | | | | | | | | 2
2 |
| 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 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
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TDMS No. 20009 - 03
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 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | FISCHER 344 RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | |
|--|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|--------------------|---------|
| | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | 070222 | | | 070222 |
| 625 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00151 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Spleen Necrosis Capsule, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 1 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland Galactocoele Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 111 | 1 2 2 2 |
| Skin Subcutaneous Tissue, Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Hyperostosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 1 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | | | | + |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain Compression Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 3 | 2 3 3 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:
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FISCHER 344 RATS MALE | DAY ON TEST | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 5 | 5 | 7 | 7 | 6 | 6 | 7 | 6 | 7 | 5 | 7 |
| | | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 0 | 2 | 2 | 5 | 6 | 2 | 2 | 6 | 7 | 9 | 2 | 8 | 1 | 2 |
| | | 2 | 7 | 7 | 7 | 6 | 6 | 7 | 5 | 7 | 1 | 8 | 6 | 2 | 8 | 7 | 6 | 4 | 3 | 7 | 4 | 7 | 6 | 3 |
| 625 mg/l | 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 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 |
| | | 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...)

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | | | | | | | 2 | | | | | | | | 1 | | | | | | 3 | | |
| Perivascular, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Edema | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Foreign Body | | | | | | | | | | | | 1 | | 2 | | | 1 | | | | | | |
| Inflammation | 3 | 3 | 1 | 3 | | | 2 | 1 | 2 | 1 | | 1 | 3 | 2 | | 1 | 1 | | | 3 | | | |
| Glands, Cyst | | | | | 1 | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Atrophy | 1 | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Erosion | | | | | | | | | | | | | | | | | 2 | | | | | | |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Olfactory Epithelium, Necrosis | | | | | | | | | | | | | 2 | | | | | | | | | | |
| Respiratory Epithelium, Erosion | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | 3 | 3 | | 3 | | | 1 | | 3 | 1 | | | | 2 | | | | | | | | 1 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation | | | | 1 | | | | | | | | | | | | | | | | | | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cataract | 1 | | | | | | | | 1 | | | | | | | | | | | | | | |
| Cornea, Inflammation, Chronic Active | | | | 1 | | | | | | | | | | | | | | | | | | | |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | |
| Sclera, Inflammation, Chronic Active | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE | 625 mg/l | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 5 | 5 | 7 | 7 | 6 | 6 | 7 | 6 | 7 | 5 | 7 | 7 | 6 | 6 | 7 | 5 | 7 | 7 | 6 | 6 | 7 |
| | | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 0 | 2 | 2 | 5 | 6 | 2 | 2 | 6 | 7 | 2 | 9 | 2 | 8 | 1 | 2 | 5 | 7 | 3 | 4 | 7 | 2 | 8 | 8 | 1 | 2 | 5 |
| | | 2 | 7 | 7 | 7 | 6 | 6 | 7 | 5 | 7 | 1 | 8 | 6 | 2 | 8 | 7 | 6 | 4 | 3 | 7 | 4 | 7 | 6 | 3 | 7 | 6 | 6 | 7 | 4 | 7 | 2 | 7 | 7 | 7 | 7 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 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 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 |

males
(cont...)

Harderian Gland

| |
|---|
| + |
|---|

Zymbal's Gland

URINARY SYSTEM

Kidney

| |
|---|
| + |
|---|

Accumulation, Hyaline Droplet

4

Infarct, Acute

Nephropathy

| |
|---|
| 4 2 2 4 2 2 2 2 2 2 3 2 2 2 2 2 1 2 2 2 2 2 4 1 |
|---|

Renal Tubule, Hyperplasia

2

Urinary Bladder

| |
|---|
| + |
|---|

Infiltration Cellular, Mixed Cell, Chronic Active

* .. 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:
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | 7 | 7 | 7 | 6 | 6 | 4 | 6 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 5 | 6 | |
| | 2 | 2 | 2 | 1 | 3 | 9 | 9 | 8 | 2 | 0 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 5 | 2 | 2 | 4 | 9 | 4 |
| | 6 | 7 | 7 | 8 | 1 | 9 | 1 | 1 | 7 | 7 | 6 | 0 | 3 | 3 | 7 | 6 | 8 | 4 | 7 | 1 | 7 | 8 | 3 | 6 | 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 | |
| 625 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 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 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | |
| | 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 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|-------|--|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Inflammation, Chronic Active | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Intestine Large, Colon | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Parasite Metazoan | | | | | | | | | 2 | | | | | | | | | | | | | | | | 1 2.0 | |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Parasite Metazoan | 1 | | | 1 | | | | | | | | | | 2 | | | | 3 | | | | | | | 5 1.8 | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Basophilic Focus | | | | | | | | | | | | | | X | X | X | | X | | X | X | | | 10 | | |
| Clear Cell Focus | X | X | | | | | | X | X | | | | | X | | | | X | | X | | | | 15 | | |
| Congestion | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | 1 | | | | 2 1.0 | | |
| Eosinophilic Focus | | X | | | | | | | | | | | | | | | | X | | | | | | 5 | | |
| Fatty Change | | | | | 1 | | 2 | | | | | | 4 | | | | | | 2 | | | | | 9 2.1 | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | X | X | X | | | | | | | | | | 6 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Mixed Cell Focus | | X | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 2 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
 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS | |
|---|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|------------|-----------------|------------|
| DAY ON TEST | | 7 | 7 | 7 | 6 | 6 | 4 | 6 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 5 | 6 | 6 | | | |
| FISCHER 344 RATS MALE
625 mg/l | | 2 | 2 | 2 | 1 | 3 | 9 | 9 | 8 | 2 | 0 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 5 | 2 | 2 | 4 | 9 | 4 | | | |
| 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 | | |
| Vacuolization Cytoplasmic Bile Duct, Hyperplasia | | 2 | 1 | 1 | | | | 3 | 3 | 3 | 3 | 2 | | 2 | 3 | 2 | 2 | 1 | 1 | 2 | | 2 | 2 | 2 | 2 | 16 | 1.3 | |
| Mesentery Fat, Necrosis | | | | | | | | | | | | | | | + | | | | | + | | | | | | 6 | 5 | 1.8 |
| Pancreas Hyperplasia Lipomatosis Acinus, Atrophy | | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | A | + | + | 48 | 1 | 1.0 |
| | | | 1 | 1 | 3 | | 3 | 2 | 3 | 2 | | 1 | | 4 | | 2 | | | | | | | | | | 25 | 1.7 | |
| Salivary Glands | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Stomach, Forestomach Fibrosis | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 |
| Hyperplasia, Squamous Inflammation Ulcer | | | | 4 | 2 | 4 | | 2 | | | | | | 3 | 4 | | 2 | 2 | 2 | | | | | | 17 | 2.7 | | |
| | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 2 | 1.5 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.5 | |
| Stomach, Glandular Inflammation, Chronic Active Ulcer | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3 | 1.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.5 | |
| Tongue | | | | | | | + | | | | | | | | | | | | | | | | | | | 1 | | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|------------|------------|
| Blood Vessel | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Heart Cardiomyopathy | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 49 | 2.6 |
| | | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 49 | 2.6 | |

* .. 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:
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 2) Mild 4) Marked

TDMS No. 20009 - 03
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 Species/Strain: RATS/F 344/N

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 Lab: BAT

| FISCHER 344 RATS MALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|-----------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 07
26 | 07
27 | 07
27 | 06
21 | 06
31 | 04
09 | 06
09 | 06
11 | 06
11 | 07
08 | 06
02 | 07
02 | 07
02 | 07
03 | 07
03 | 07
07 | 07
06 | 07
04 | 05
01 | 07
07 | | 06
08 | 05
03 | 06
06 | 06
09 | 06
04 |
| ANIMAL ID | 00176 | 00077 | 00077 | 00008 | 00001 | 00008 | 00008 | 00008 | 00008 | 00008 | 00008 | 00008 | 00008 | 00008 | 00009 | 00009 | 00009 | 00009 | 00009 | 00009 | 00009 | 00009 | 00009 | 00009 | 00009 | 00009 |

Epicardium, Inflammation, Chronic Active

1

1 1.0

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Accessory Adrenal Cortical Nodule | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Hyperplasia | 1 | 2 | | 2 | 1 | | 2 | | | 1 | | | 3 | 1 | 1 | 1 | | | 2 | | 1 | | | | | | 21 1.3 |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | 2 | | | | 3 | | 1 | 1 | | | | | | | | | | | | | | | 1 | | 7 1.6 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Necrosis | | | | | | | 3 | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Pars Distalis, Hyperplasia | | | | | | | | | | 2 | 2 | | 3 | | | | | 3 | | | | | 2 | | | | 12 2.0 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Hyperplasia | 2 | | | | | | | | | 2 | | 1 | | | | | | | | | | | | | | | 7 1.9 |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-------|
| Peritoneum | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Inflammation, Chronic Active | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | 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:
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 2) Mild 4) Marked

TDMS No. 20009 - 03
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 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS MALE

625 mg/l | | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS |
|---------------------------------------|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | | ANIMAL ID | 7 | 7 | 7 | 6 | 6 | 4 | 6 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 5 | 6 | 6 | 6 | |
| | | | 2 | 2 | 2 | 1 | 3 | 9 | 9 | 8 | 2 | 0 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 5 | 7 | 2 | 2 | 4 | 9 | 4 | |
| | | | 6 | 7 | 7 | 8 | 1 | 9 | 1 | 1 | 7 | 7 | 6 | 0 | 3 | 3 | 7 | 6 | 8 | 4 | 7 | 1 | 7 | 8 | 3 | 6 | 9 | |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 0 | 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 | 2 | |
| | | | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | |
| | | | 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 | |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Epididymis
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 | 1.0 |
| Preputial Gland
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 13 | 1.6 |
| Prostate
Hyperplasia
Hyperplasia, Adenomatous
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 2.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| | 2 | 1 | 1 | 1 | 1 | | 2 | 1 | 2 | | | 2 | 3 | | 1 | 2 | 1 | | 1 | | 2 | 1 | 1 | 1 | 2 | 35 | 1.6 | |
| Seminal Vesicle
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 |
| Testes
Atrophy
Interstitial Cell, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3 | 3.3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.1 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Lymph Node
Deep Cervical, Ectasia
Deep Cervical, Infiltration Cellular
Mediastinal, Ectasia | | | | | | + | | | | | | + | + | | | | | | | | | | | | + | 8 | 1 | 2.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 2.3 |
| 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 | | |

* .. 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

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
|---|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|----------|
| DAY ON TEST | | 7 | 7 | 7 | 6 | 6 | 4 | 6 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 5 | 7 | 6 | 5 | 6 | 6 | |
| FISCHER 344 RATS MALE | | 2 | 2 | 2 | 1 | 3 | 9 | 9 | 8 | 2 | 0 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 5 | 2 | 2 | 4 | 9 | 4 | |
| 625 mg/l | | 6 | 7 | 7 | 8 | 1 | 9 | 1 | 1 | 7 | 7 | 6 | 0 | 3 | 3 | 7 | 6 | 8 | 4 | 7 | 1 | 7 | 8 | 3 | 6 | 9 | |
| 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 | |
| | | 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 | |
| | | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | |
| | | 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 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | |
| Capsule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Thymus | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Galactocoele | | | | | | | | | | | | | | 2 | 1 | | | | | | | | | | | 12 1.4 | |
| Hyperplasia | | | | | | | | | | | | | | | | 1 | | | | 1 | | | | | | 5 1.4 | |
| Skin | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Subcutaneous Tissue, Inflammation, Chronic Active | | | | | | | | | | | | | | | 3 | | | | | | | | | | | 1 3.0 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperostosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Compression | | | | | | | | | | | | | | | 3 | | | 2 | | | 2 | 3 | | | | 9 2.6 | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | 3 | | 2 | 3 2.3 | |

* .. 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|--------|--------|
| FISCHER 344 RATS MALE | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | |
| | | 0726 | 0726 | 0726 | 0668 | 0661 | 0469 | 0661 | 0661 | 0778 | 0667 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0667 | 0577 | 0666 | | 0566 | 0666 |
| 625 mg/l | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
| | | 001766 | 001767 | 001768 | 001769 | 001770 | 001771 | 001772 | 001773 | 001774 | 001775 | 001776 | 001777 | 001778 | 001779 | 001780 | 001781 | 001782 | 001783 | 001784 | 001785 | | 001786 | 001787 |
| | | 001788 | 001789 | 001790 | 001791 | 001792 | 001793 | 001794 | 001795 | 001796 | 001797 | 001798 | 001799 | 001800 | 001801 | 001802 | 001803 | 001804 | 001805 | 001806 | 001807 | | 001808 | 001809 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--------|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Granulomatous | | | | | | | | | 2 | | | | | | | | | | | | | | | 1 2.0 |
| Alveolar Epithelium, Hyperplasia | 1 | | | | | | | | | | | | | 2 | 1 | 1 | | | 1 | | | | | 8 1.5 |
| Perivascular, Hemorrhage | | | | | | | | | | | | | | | | | | | | | 2 | | | 1 2.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Foreign Body | | | | | 1 | 2 | | | 2 | 1 | 3 | 2 | | | | | | | 1 | | | | | 10 1.6 |
| Inflammation | | | 3 | 1 | 3 | | | | 2 | 1 | 3 | 2 | | | 3 | | | | 1 | | | 1 | | 24 2.0 |
| Glands, Cyst | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Olfactory Epithelium, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Olfactory Epithelium, Erosion | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Olfactory Epithelium, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Respiratory Epithelium, Erosion | | | | | | 3 | | | | | | | | | | | | | | | | | | 1 3.0 |
| Respiratory Epithelium, Hyperplasia | | 1 | 3 | 1 | 2 | | | | 2 | 1 | 2 | 2 | | | 2 | | | | | | | | | 17 1.9 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cataract | | | | | | | | | | | | 3 | | | | | | | | | | | | 3 1.7 |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Retina, Degeneration | | | | | | | | | | | | 3 | | | | | | | | | | | | 1 3.0 |
| Sclera, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically M .. Missing tissue
 X .. Lesion present A .. Autolysis precludes evaluation
 I .. Insufficient tissue BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | FISCHER 344 RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|----------|
| | 0726 | 0727 | 0728 | 0621 | 0623 | 0629 | 0631 | 0608 | 0609 | 0611 | 0617 | 0618 | 0622 | 0623 | 0627 | 0628 | 0634 | 0635 | 0641 | 0642 | 0648 | 0649 | 0655 | 0656 | |
| 625 mg/l | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANIMAL ID | 00176 | 00177 | 00178 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | 00197 | 00198 | 00199 | 00200 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Accumulation, Hyaline Droplet | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Infarct, Acute | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 1.0 | |
| Nephropathy | 2 | 4 | 2 | 2 | 2 | 2 | 4 | 4 | 1 | 2 | 2 | 2 | 1 | 4 | 4 | 2 | 2 | 2 | 4 | 2 | 2 | 4 | 4 | 50 2.4 | |
| Renal Tubule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Infiltration Cellular, Mixed Cell, Chronic Active | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |

*** END OF MALE DATA ***

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
| | 0712 | 0714 | 0715 | 0716 | 0717 | 0718 | 0719 | 0720 | 0721 | 0722 | 0723 | 0724 | 0725 | 0726 | 0727 | 0728 | 0729 | 0730 | 0731 | 0732 | 0733 | 0734 | 0735 | 0736 | | |
| 0 mg/l | 0 | 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 | 0020 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 0038 | 0039 | 0040 | 0041 | 0042 | 0043 | 0044 | 0045 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum
Inflammation, Chronic Active | + | A | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Basophilic Focus | | X | X | X | X | X | X | X | X | X | X | X | | X | X | X | | X | | X | X | X | X | | |
| Clear Cell Focus | | | | X | | | | | X | X | | | | | | | | | | | X | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eosinophilic Focus | | | X | | | X | | | | X | X | | | | | | | | | | X | | X | | |
| Fatty Change | 2 | | | | | | | | 1 | | | | | | | 1 | | | | 2 | | | | | |
| Fatty Change, Focal | | | 3 | | | | | | | | | | | | | | | | | | | | | | |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
|--------------------------------|-----------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----------------------|---|
| FISCHER 344 RATS FEMALE | | 07 | 05 | 06 | 07 | 07 | 07 | 07 | 07 | 04 | 07 | 07 | 07 | 07 | 04 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 05 | | | | |
| 0 mg/l | ANIMAL ID | 01 | 01 | 04 | 02 | 01 | 02 | 01 | 08 | 08 | 02 | 02 | 00 | 02 | 05 | 02 | 02 | 02 | 02 | 02 | 01 | 02 | 08 | 08 | 08 | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | | | | | | | X | | | X |
| Inflammation, Chronic Active | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Necrosis | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Regeneration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| Bile Duct, Hyperplasia | | | | | | | | | | 1 | 2 | | 1 | | | 1 | | | 1 | | | | | | 1 | | | 1 |
| Vein, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fat, Necrosis | | | | | | | | | | + | | | | | | | | | | | | | | | | | | + |
| | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | 2 |
| Pancreas | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Salivary Glands | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Stomach, Glandular | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CARDIOVASCULAR 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
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|----------------------|
| | 0
7
1
2 | 0
5
1
4 | 0
6
4
4 | 0
7
2
9 | 0
7
1
5 | 0
7
2
8 | 0
7
2
8 | 0
7
1
9 | 0
7
8
8 | 0
4
2
7 | 0
7
2
9 | 0
7
2
0 | 0
7
2
2 | 0
4
5
4 | 0
7
2
9 | 0
7
2
8 | 0
7
2
8 | 0
7
2
2 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
9 | 0
5
2
0 | | |
| 0 mg/l | 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 | |
| | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cardiomyopathy | 3 | 1 | 3 | 3 | 3 | 2 | 4 | 3 | 1 | 3 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | | 2 | 3 | 2 | 3 | 1 | |
| Artery, Infiltration Cellular, Mononuclear Cell | | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Atrium, Thrombosis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | 1 | | 2 | 2 | | | | | 1 | 3 | | | | 1 | 1 | 1 | 1 | | 2 | 2 | 2 | 2 | |
| Necrosis | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | | | | | | | 3 | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Parathyroid Gland | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | 2 | | 3 | | 2 | 2 | | | 3 | 1 | | | | | | | 2 | | 2 | | | | 3 | | |
| Pars Intermedia, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| C-cell, Hyperplasia | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| | 0
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4 | 0
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4 | 0
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8 | 0
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9 | 0
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8 | 0
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9 | 0
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0 | | |
| 0 mg/l | 0
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1 | 0
0
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1 | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cervix, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vagina | | | | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreatic, Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 |

* .. 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 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------|--|----------------------|
| | 0712 | 0714 | 0715 | 0716 | 0717 | 0718 | 0719 | 0720 | 0721 | 0722 | 0723 | 0724 | 0725 | 0726 | 0727 | 0728 | 0729 | 0730 | 0731 | 0732 | 0733 | 0734 | 0735 | | | |
| 0 mg/l | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 00000 | | |
| ANIMAL ID | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 00000 | | |
| | 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
Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 4 4 | | |
| Thymus
Cyst
Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Galactoceles
Hyperplasia
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 4 2 1 1 1 | | |
| Skin
Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone
Hyperostosis
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 3 | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain
Compression | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 3 3 1 2 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
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 1) Minimal 3) Moderate
 2) Mild 4) Marked

TDMS No. 20009 - 03

Test Type: CHRONIC

Route: DOSED WATER

Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline

CAS Number: 108-99-6

Date Report Requested: 05/27/2011

Time Report Requested: 10:09:56

First Dose M/F: 11/18/04 / 11/19/04

Lab: BAT

| FISCHER 344 RATS FEMALE | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | females
(cont...) | | |
|-------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 0 mg/l | | 0
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| ANIMAL ID | | 0
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3 | 0
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2
4 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Metaplasia, Squamous | | | | | | | | | | | 2 | | | | | | | | | | | | |
| Pigmentation | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Alveolar Epithelium, Hyperplasia | | | | | | | 1 | | | 1 | | | | | 2 | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Nasolacrimal Duct, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | |
| Nasolacrimal Duct, Inflammation | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | |
| Cataract | | | | 4 | 1 | | 2 | | | | | | 4 | | 2 | | 2 | | 1 | | | | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | 3 | | | | | | | 2 | |
| Retina, Degeneration | | | | 4 | | | | | | | | | | | | | | | | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Granulomatous | | | | | | | | | | 1 | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 2 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:
 X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate
 I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(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 mg/l | 7 | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 0 | |
| | 1 | 1 | 4 | 2 | 1 | 2 | 2 | 1 | 8 | 2 | 2 | 0 | 2 | 5 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 0 | 0 | |
| | 2 | 4 | 4 | 9 | 5 | 8 | 8 | 9 | 8 | 7 | 9 | 0 | 7 | 4 | 9 | 7 | 8 | 9 | 8 | 2 | 8 | 8 | 8 | 8 | 9 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 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 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 0 | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 0 | | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Degeneration, Fatty | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | 1 | 4 | | 3 | 3 | | | | | | 2 | | | |
| Infarct | | | | | | | | | | | | | 2 | | 3 | 3 | | | | | | | | | |
| Nephropathy | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 3 | 2 | 1 | 2 | 4 | | 3 | 4 | 2 | 2 | 2 | | 3 | 1 | 1 | 1 | 2 |
| Papilla, Hemorrhage | | | | | | | | | | | | | | | 1 | | | | | | | | | | |
| Pelvis, Inflammation, Chronic Active | | | | | | | | | | | | | 4 | | 1 | 2 | | | | | 3 | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

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 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 079 | 070 | 072 | 073 | 075 | 076 | 077 | 077 | 077 | 077 | 076 | 077 | 077 | 077 | 066 | 077 | 066 | 066 | 066 | 077 | 077 | 066 | |
| 0 mg/l | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 47 |
| ANIMAL ID | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 3 2.0 |
| | 67 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 0 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | 1 1.0 |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | 3 1.3 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | 3 2.0 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | 1 1.0 |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | 1 1.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Basophilic Focus | X | | X | | X | X | | X | | | | X | X | | X | | X | X | X | X | X | X | X | 37 | |
| Clear Cell Focus | | | | | | | | X | | | | X | X | | X | | | | | X | | | X | 10 | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Degeneration, Cystic | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 2.0 | |
| Eosinophilic Focus | | X | X | | | X | | X | | | | | | | | | | | X | | | | X | 12 | |
| Fatty Change | | | | | | | | | | 2 | | 4 | | | | | | 1 | | | 1 | | | 8 1.8 | |
| Fatty Change, Focal | | 4 | | | | | | | | | | | | | | | | | | | | | | 2 3.5 | |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |

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 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|------------------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | |
| 0 mg/l | 002226 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | |
| | 67890123456789 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | 000222 | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Inflammation, Chronic Active | | | | 1 | | | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Regeneration | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1 2.0 |
| Vacuolization Cytoplasmic | | | | | | | | | | | | 1 | | | | | | | 2 | | 2 | | | | 4 1.5 |
| Bile Duct, Hyperplasia | | | | 3 | | | | | | | | | | | 3 | | | 3 | | | | | | | 10 1.8 |
| Vein, Dilatation | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | 4 1.8 |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Cyst | | | | | | | | | | | | | | | | | | | | | | 2 | | | 1 2.0 |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | 4 2.0 |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | 7 2.0 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |

CARDIOVASCULAR 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|---|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--|--|
| | 0729 | 0729 | 0729 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | 0531 | | | |
| 0 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | 002226 | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cardiomyopathy | 2 | 2 | 2 | 1 | 1 | 3 | 3 | 2 | 3 | 2 | 2 | | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 48 2.3 | | |
| Artery, Infiltration Cellular, Mononuclear Cell | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Atrium, Thrombosis | | | | | | | | | 2 | | | | | | | | | | | | | | | | 1 2.0 | | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 1.0 | | |
| Hyperplasia | 2 | | | | | 2 | 3 | | 3 | | | 1 | 1 | 3 | | | 1 | 1 | | 1 | | 3 | | 2 1 | 26 1.7 | | |
| Necrosis | | | | | | | | | | | | 2 | | | | | | | | | | | | | 2 2.0 | | |
| Vacuolization Cytoplasmic | | | 1 | | | | | | | | | | | | | | | | | | | | | | 2 2.0 | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | 1 | | | | | | | 1 | | | | | 1 | | 5 1.0 | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | 47 | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Pars Distalis, Cyst | | | | | | | | | | | X | | | | | | | | | | | | | | 1 | | |
| Pars Distalis, Hyperplasia | 2 | | | | | | | | | | 3 | | 1 | | 3 | 3 | | 1 | 3 | | | 3 | 3 | 2 | 19 2.3 | | |
| Pars Intermedia, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| C-cell, Hyperplasia | | | | | | 1 | | 1 | | 1 | | | | | 2 | | | | | | | 3 | | 2 | 8 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
 2) Mild 4) Marked

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
0 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----------|
| | 079 | 070 | 072 | 073 | 075 | 076 | 077 | 077 | 077 | 077 | 076 | 077 | 077 | 076 | 076 | 076 | 077 | 077 | 077 | 076 | 077 | 076 | 077 | | |
| ANIMAL ID | 0022 | 0022 | 0022 | 0022 | 0023 | 0023 | 0023 | 0023 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 50 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-------|--|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | |
| Hyperplasia | | | | | 2 | | | | | | | | | | | | | | | | | | | | 2 2.0 | |
| Inflammation | 2 | | | | | | | | | 2 | | 3 | 3 | | | | | | | | | | | 2 1 | 9 2.0 | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4 1.5 | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cervix, Cyst | | 2 | | | | | | | | 3 | | | | | | 3 | | | | | | | | | 4 2.8 | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | 3 | | | | | | | | | | | 1 3.0 | |
| Vagina | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|--|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | |
| Pancreatic, Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | | 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 | 0 | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
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 A .. Autolysis precludes evaluation
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 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----------|-----|
| | 079 | 077 | 075 | 053 | 057 | 062 | 072 | 077 | 077 | 077 | 067 | 077 | 077 | 066 | 066 | 066 | 077 | 077 | 077 | 067 | 077 | 067 | 077 | | | |
| 0 mg/l | 0029 | 0021 | 0029 | 0031 | 0079 | 0021 | 0022 | 0022 | 0029 | 0028 | 0028 | 0021 | 0027 | 0027 | 0021 | 0022 | 0029 | 0028 | 0028 | 0029 | 0029 | 0029 | 0028 | | | |
| | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | | | |
| | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Spleen Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 4 | 3.8 |
| Thymus Cyst Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 | 2.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 | 4.0 |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland Galactoceles Hyperplasia Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 12 | 1.8 |
| | | | 1 | | | | | | 2 | | 1 | | | | | | | | 1 | 1 | | | | | 4 | 1.3 |
| | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | 1.0 |
| Skin Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Hyperostosis Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 |
| | | | | | | | | | | | | | | | | | | | | | | 3 | | | 1 | 3.0 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain Compression | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 13 | 2.3 |
| | | 4 | | 1 | | | | 2 | | | | | 3 | | | | | | | | | 1 | 4 | | 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
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
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 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----------|
| | 079 | 077 | 079 | 053 | 057 | 061 | 077 | 077 | 077 | 077 | 066 | 077 | 077 | 077 | 066 | 066 | 066 | 077 | 077 | 077 | 066 | 077 | 077 | | |
| 0 mg/l | 0029 | 0021 | 0029 | 0031 | 0039 | 0011 | 0028 | 0027 | 0029 | 0028 | 0028 | 0021 | 0029 | 0027 | 0021 | 0022 | 0025 | 0029 | 0028 | 0028 | 0029 | 0022 | 0028 | 50 | |
| ANIMAL ID | 0026 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Granulomatous | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pigmentation | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | 1 | | | 1 | | | 2 | | | | 1 | | | | | 7 1.3 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Foreign Body | | | 1 | | | | | | | | | | | | 1 | | | | | | | | | | 2 1.0 |
| Inflammation | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | 3 1.0 |
| Nasolacrimal Duct, Foreign Body | | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 1.0 |
| Nasolacrimal Duct, Inflammation | | | | | | | | | | | | | | | | | | | 1 | | | | | | 2 1.0 |
| Respiratory Epithelium, Hyperplasia | | | 2 | | | | | | | | | | | | 1 | | | | | | | | | | 3 1.7 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | | | | | | | | | | | | | | 3 | | | | | | | | | | | 1 3.0 |
| Cataract | | | 2 | | | | | | | | | | | | | | | | | | | | | | 8 2.3 |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | 2 | | | | | 2 2.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
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 beta-Picoline
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Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 079 | 070 | 072 | 073 | 075 | 076 | 077 | 077 | 077 | 077 | 076 | 077 | 077 | 077 | 076 | 076 | 076 | 077 | 077 | 077 | 076 | 077 | 077 | | |
| 0 mg/l | 0029 | 0011 | 0029 | 0031 | 0079 | 0011 | 0088 | 0077 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 49 | |
| ANIMAL ID | 00226 | 00227 | 00228 | 00229 | 00230 | 00231 | 00232 | 00233 | 00234 | 00235 | 00236 | 00237 | 00238 | 00239 | 00240 | 00241 | 00242 | 00243 | 00244 | 00245 | 00246 | 00247 | 00248 | 00249 | 50 |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|--------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Degeneration, Fatty | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Fibrosis | | | | | 1 | 2 | | | | | | | | 1 | | | | | | | | | | | 8 2.1 | |
| Infarct | | | | | 2 | 1 | | | | | | | | 1 | | | | | 1 | | | | | | 7 1.9 | |
| Nephropathy | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 3 | 1 | 3 | 1 | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 47 1.7 |
| Papilla, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Pelvis, Inflammation, Chronic Active | | | | | 2 | 2 | | | | | | | 2 | | | | | | | 3 | | | | | 8 2.4 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
| | 0614 | 0706 | 0531 | 0729 | 0779 | 0666 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + |
| Intestine Large, Colon
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| Intestine Large, Rectum
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| | | | | | | | | | | 1 | | | | | | | | 2 | | | | X | | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + |
| Intestine Small, Jejunum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | A | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Basophilic Focus | | X | X | X | X | X | X | X | X | X | X | X | | | X | X | X | | X | X | X | X | X | X |
| Clear Cell Focus | | X | | | | | | | | | X | X | | | X | | | | | | X | | X | |
| Congestion | | | | | | | | | | 1 | | | | | | | | | | | | | | |
| Eosinophilic Focus | | | | | X | | X | | | X | | | X | | | | | | X | X | X | X | | |
| Fatty Change | | | | | | 2 | | | | 1 | | | | | | | | | | 2 | | | | |
| Fatty Change, Focal | | | | | | | 3 | | 3 | | | | | | 1 | 3 | 1 | | | | | 1 | 2 | 2 |
| Hepatodiaphragmatic Nodule | | | X | | X | | | | | | | | | | | | | | X | | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| | 0
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8 | 0
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7 | 0
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2
4 | 0
7
2
2 | 0
7
2
8 | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
| | 0
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6
4 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | X | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Vein, Infiltration Cellular, Mixed Cell | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | | | | | | | | | | | | | | | | | | | | | | | | | |
| Heart | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cardiomyopathy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrium, Thrombosis | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
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8 | | |
| 156.25 mg/l | 0
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|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Inflammation | | | | | | | | | 1 | | | | | | | | | | 4 | | 4 | | | | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cervix, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Vagina | + | | | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Deep Cervical, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mediastinal, Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mediastinal, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
| | 0614 | 0706 | 0503 | 0702 | 0702 | 0601 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | | |
| 156.25 mg/l | 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 | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | 1 | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Galactocele | | | | | 1 | | | | | | | | | 3 | | | | | | | | | 2 | |
| Hyperplasia | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| Ulcer | | | | 3 | 2 | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Compression | | 2 | | | | | 2 | | | | | | | | | | 2 | | | | | | 1 | |
| Hemorrhage | 2 | | | | | | | | | | | | 3 | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | 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
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | FISCHER 344 RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0614 | 0706 | 0503 | 0702 | 0702 | 0601 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | 0702 | | |
| 156.25 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0051 | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | 1 | | | 1 | | | 1 | | 1 | | | 1 | | | |
| Alveolar Epithelium, Metaplasia, Squamous | | | 1 | | | | | | | | | | 1 | | | | | | | | | | | | |
| Serosa, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Glands, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Atrophy | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Infiltration Cellular, Mixed Cell | | | | | | | | | | | | | | | | | | | | | | | | | 1 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cataract | | | | 1 | | 1 | 4 | | | 1 | | | | | | | 2 | 2 | | | | 3 | 2 | |
| Anterior Chamber, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | |
| Cornea, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | |
| Retina, Degeneration | | | | | | | 4 | | | | | | | | | | | | | | | | 3 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | |

URINARY 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

TDMS No. 20009 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
beta-Picoline
CAS Number: 108-99-6

Date Report Requested: 05/27/2011
Time Report Requested: 10:09:56
First Dose M/F: 11/18/04 / 11/19/04
Lab: BAT

| DAY ON TEST | FISCHER 344 RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | | | | | | | |
|--------------------------------------|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|------|------|------|------|------|------|------|------|
| | 0614 | 0706 | 0531 | 0729 | 0776 | 0676 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0676 | 0777 | 0777 | 0777 | 0676 | 0777 | | | | | | | | | | |
| 156.25 mg/l | 0051 | 0006 | 0003 | 0002 | 0002 | 0001 | 0002 | 0002 | 0002 | 0002 | 0002 | 0002 | 0000 | 0001 | 0002 | 0002 | 0002 | 0002 | 0002 | 0002 | 0001 | 0002 | 0002 | 0003 | 0002 | 0001 | 0002 | 0002 | 0003 | 0002 | 0001 | 0002 | 0003 | 0004 | 0005 |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Fibrosis | | | | 2 | | | 1 | 3 | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | |
| Infarct | | | | 2 | | | 2 | 3 | | | | | | | | | | | | 3 | | | | | | | | | | | | | | | |
| Nephropathy | 1 | 1 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 2 | 1 | 2 | | | | | | | | | | |
| Pelvis, Inflammation, Chronic Active | | | | 3 | | | 4 | 3 | | | | | | | | | | | 3 | | | | | | | | | | | | | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
156.25 mg/l | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|--|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|
| | | 0526 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | | 0777 | | | |
| ANIMAL ID | | 0076 | 0077 | 0078 | 0079 | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | 0089 | 0090 | 0091 | 0092 | 0093 | 0094 | 0095 | 0096 | 0097 | 0098 | 0099 | 0100 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|------------|--------------|---|------------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | |
| Intestine Large, Cecum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 | | | | |
| Intestine Large, Colon
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | 1 | 1 1.0 | 2 | 1.5 |
| Intestine Large, Rectum
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | 1 | 1 1.0 | 2 | 1.7 |
| Intestine Small, Duodenum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | | | | |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | 2 | 1 2.0 | | |
| Intestine Small, Jejunum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | | | | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | |
| Angiectasis | | | | | | | 1 | | | | | | | | | | 1 | | | | | | | | | | | | | 3 1.3 | | |
| Basophilic Focus | X | X | X | X | X | | X | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | | | 41 | | | | | |
| Clear Cell Focus | | X | | | X | | X | | X | | | | | X | | | | | X | | | | | | | | | 12 | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1.0 | | |
| Eosinophilic Focus | | | | | | | X | | X | X | | X | | X | | X | | | | | | | | | | | | 14 | | | | |
| Fatty Change | | | | | | 3 | | | 1 | | | | 1 | | | | | | | | | | | | 1 | | | 7 | | 1.6 | | |
| Fatty Change, Focal | 3 | | | | | | | | 4 | | | | | | | | 3 | | 1 | | | | 3 | | | | 13 | | 2.3 | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | X | | | X | | X | | | | | | | X | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
156.25 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0526 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | 0727 | |
| ANIMAL ID | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| Inflammation, Chronic Active
Mixed Cell Focus | 2 | | | | | | | | | | | | | | 1 | | | | | | | 2 | | | |
| Vacuolization Cytoplasmic
Bile Duct, Hyperplasia | 2 | | | X | | | | | | | | | | | | | | | | | | 2 | | | |
| Vein, Infiltration Cellular, Mixed Cell | | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| Mesentery
Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | + | + | 7 | |
| Pancreas
Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Salivary Glands
Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Stomach, Forestomach
Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia, Squamous
Ulcer | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Stomach, Glandular
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart
Cardiomyopathy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrium, Thrombosis | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 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
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|
| | 0526 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | 0772 |
| 156.25 mg/l | 0 | 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 | 0076 | 0077 | 0078 | 0079 | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | 0089 | 0090 | 0091 | 0092 | 0093 | 0094 | 0095 | 0096 | 0097 | 0098 | 0099 | 0100 | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Amyloid Deposition | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia | | 1 | | 1 | | | 1 | | 1 | 1 | 1 | 3 | | | | 1 | | 1 | 2 | | 1 | 1 | | | 25 | 1.4 | |
| Necrosis | | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Vacuolization Cytoplasmic | | | | | | 2 | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | 1 | | | | | | | | | | 1 | | | | | | 3 | 1.0 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | 49 | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | 49 | | |
| Pituitary Gland | + | + | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Angiectasis | | | | 2 | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Pars Distalis, Hyperplasia | | | | | | | 2 | | | | 1 | | | | 1 | | 2 | 1 | | 1 | 3 | | 2 | 1 | 19 | 1.6 | |
| Thyroid Gland | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | | |
| C-cell, Hyperplasia | | | | | | | | | 1 | | 1 | | | | | | | | | 1 | 1 | | | | 6 | 1.5 | |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|
| Peritoneum | | | | | | | | | | | | | | | | | | | | | | | | | + | 1 |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|

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
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|----------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|-------|
| | 0526 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Hyperplasia | | 4 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | 4 2.3 | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | | 5 2.8 | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 3 2.0 | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Cervix, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 2 3.0 | |
| Endometrium, Hyperplasia, Cystic | 1 | | | | 1 | | 1 | | | | 1 | | 1 | | | | | | | | | | | | | 8 1.1 | |
| Vagina | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| Deep Cervical, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Mediastinal, Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Mediastinal, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| 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 | |

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TDMS No. 20009 - 03
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
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Date Report Requested: 05/27/2011
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 Lab: BAT

| DAY ON TEST | FISCHER 344 RATS FEMALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|-------------------------------|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|-------|--|--|
| | 0526 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | 0772 | 0772 | | | | |
| ANIMAL ID | 0076 | 0077 | 0078 | 0079 | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | 0089 | 0090 | 0091 | 0092 | 0093 | 0094 | 0095 | 0096 | 0097 | 0098 | 0099 | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia, Lymphoid | | | | 3 | | | | | | | | | | | | | | | | | | | | | 2 2.0 | | |
| Necrosis | | | | | | | | | | | | | | | | | | | 2 | | | | | | 1 2.0 | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Galactocele | 2 | | | | 2 | | | | | | | | 2 | 1 | | | | | | | | | 2 | | 8 1.9 | | |
| Hyperplasia | 3 | | | | | | | | | | | | | 1 | | | | | | | | | | | 4 1.5 | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | + | 1 | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Compression | 2 | | | | | | | | | | | | | | | 1 | | | | | | | 2 | | 7 1.7 | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | FISCHER 344 RATS FEMALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|-------------|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|--|
| | 0526 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | 0772 | 0772 | 0772 | |
| 156.25 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | |
| ANIMAL ID | 0076 | 0077 | 0078 | 0079 | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | 0089 | 0090 | 0091 | 0092 | 0093 | 0094 | 0095 | 0096 | 0097 | 0098 | 0099 | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Alveolar Epithelium, Hyperplasia | | | | 1 | 1 | | | | | | 3 | | 3 | | 1 | | | | | | 1 | 1 | | 4 | 14 | 1.5 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | | | 2 | | | | | | | | | | | | | | | | | | | 3 | 1.3 |
| Serosa, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Foreign Body | | | | | | | 1 | | | | | | 2 | | | | | | | 2 | | | | | 3 | 1.7 |
| Inflammation | | | | | | | 1 | | | | | | 2 | | | | | | | 1 | 2 | | | 1 | 5 | 1.4 |
| Glands, Hyperplasia | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Olfactory Epithelium, Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | 2 | | | | | | | | | | | | | 1 | 2.0 |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | 1.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Infiltration Cellular, Mixed Cell | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|
| Eye | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | | |
| Cataract | | | | 4 | | | 2 | | | | 2 | | | | | | | 3 | 2 | | | | | | 13 | 2.2 |
| Anterior Chamber, Inflammation, Suppurative | | | | | | | | | | | | | | | | 2 | | | | | | | | | 1 | 2.0 |
| Cornea, Hyperplasia | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | 1.0 |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 3.5 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic Active | | | | | | | 2 | | | | | | | | | | | | | | | | | | 1 | 2.0 |

URINARY 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--------------------------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|----------|
| | 056 | 077 | 077 | 077 | 077 | 077 | 075 | 077 | 077 | 077 | 077 | 077 | 067 | 077 | 077 | 077 | 076 | 077 | 077 | 067 | 077 | 074 | 074 | 05 | | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Fibrosis | | 4 | | | | | | | 4 | | | 2 | | | | | | | | | | | | | 7 2.9 | |
| Infarct | | 2 | | | | | | | | | 1 | | | | | 1 | 1 | | | | | | | | 8 1.9 | |
| Nephropathy | 2 | 4 | 2 | 1 | 2 | 2 | 2 | 1 | 4 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 50 2.0 | |
| Pelvis, Inflammation, Chronic Active | | 4 | | | | | | | 4 | | | 4 | | | | | | 2 | 1 | | | | | | 9 3.1 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------|
| FISCHER 344 RATS FEMALE | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 |
| 312.5 mg/l | 9 | 2 | 9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 7 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 8 | 2 | 8 | 2 | |
| ANIMAL ID | 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 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 3 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 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...) |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | 1 |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | + | 2 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | 2 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atypia Cellular | | | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| Basophilic Focus | | X | X | X | X | X | X | X | X | | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X |
| Clear Cell Focus | | | | X | X | | | | X | | X | X | | | | | | X | X | X | X | | | | | |
| Eosinophilic Focus | | X | X | | X | X | | | | X | | | | | X | | | X | X | | | | | | | |
| Fatty Change | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 2 | |
| Fatty Change, Focal | | | | | | | | | 1 | | | | | | 3 | | | | | | | | 3 | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | X | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
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TDMS No. 20009 - 03
 Test Type: CHRONIC
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 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|---|---|---|---|---|---|
| | 312.5 mg/I | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | 0 | 0 | 0 | 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 | | |
| Mixed Cell Focus | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 7 | | | X |
| Necrosis | 9 | 2 | 9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 7 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | |
| Vacuolization Cytoplasmic | 1 | 9 | 0 | 9 | 7 | 9 | 7 | 9 | 7 | 1 | 8 | 2 | 6 | 7 | 8 | 6 | 8 | 8 | 3 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | | | |
| Bile Duct, Hyperplasia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Serosa, Fibrosis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Mesentery | 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 | 3 | 3 | 3 | | | |
| Fat, Necrosis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Oral Mucosa | 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 | 6 | 7 | 8 | | | |
| Gingival, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gingival, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Basal Cell, Focal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
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TDMS No. 20009 - 03
 Test Type: CHRONIC
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0691 | 0729 | 0690 | 0729 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0676 | 0724 | 0672 | 0722 | 0722 | 0522 | 0722 | 0722 | 0622 | 0722 | 0722 | 0622 | 0722 | 0522 | | |
| 312.5 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 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 | 0 | |
| | 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 | 0 | |

Inflammation, Chronic Active

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cardiomyopathy | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 2 |
| Endocardium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |

ENDOCRINE SYSTEM

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

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 beta-Picoline
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 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| | 0
6
9
1 | 0
7
2
9 | 0
6
9
0 | 0
7
2
9 | 0
7
2
7 | 0
7
2
9 | 0
7
2
7 | 0
7
2
9 | 0
7
2
7 | 0
7
2
9 | 0
7
2
7 | 0
7
2
9 | 0
6
4
2 | 0
7
2
8 | 0
6
7
6 | 0
7
2
7 | 0
5
2
6 | 0
7
2
8 | 0
6
0
3 | 0
7
2
9 | 0
7
2
9 | 0
7
2
7 | 0
5
8
2 | 0
7
2
9 | | |
| 312.5 mg/l | 0
0
3
0
1 | 0
0
3
0
2 | 0
0
3
0
3 | 0
0
3
0
4 | 0
0
3
0
5 | 0
0
3
0
6 | 0
0
3
0
7 | 0
0
3
0
8 | 0
0
3
0
9 | 0
0
3
0
0 | 0
0
3
0
1 | 0
0
3
0
2 | 0
0
3
0
3 | 0
0
3
0
4 | 0
0
3
0
5 | 0
0
3
0
6 | 0
0
3
0
7 | 0
0
3
0
8 | 0
0
3
0
9 | 0
0
3
0
0 | 0
0
3
0
1 | 0
0
3
0
2 | 0
0
3
0
3 | 0
0
3
0
4 | 0
0
3
0
5 | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | 2 | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Inflammation | | | | | | | | | | 1 | | | | | | | 2 | | | | | | | 2 | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cervix, Cyst | | | | | | | | | | | | | 3 | | | | | | | | | | | | |
| Endometrium, Hyperplasia, Cystic | | | | 1 | 1 | | | | | | | | | | | 2 | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | + | | | | | | | | | | | | + | | | | | | | | | | | | |
| Deep Cervical, Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deep Cervical, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | 2 | | | | | | | | | | | | |
| Mediastinal, Infiltration Cellular, Mixed Cell | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|-------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|----------------------|
| 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 | | |
| 312.5 mg/I | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 6 | 7 | 7 | 5 | | |
| | 9 | 2 | 9 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 7 | 2 | 2 | 2 | 8 | 8 | 8 | 0 | 2 | 2 | 2 | 8 | | |
| | 1 | 9 | 0 | 9 | 7 | 9 | 7 | 9 | 7 | 1 | 8 | 2 | 8 | 6 | 7 | 8 | 6 | 8 | 8 | 3 | 9 | 9 | 2 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | | |
| | 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 | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Suppurative | | | 1 | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | | | | 2 | | | | 3 | 1 | | | | | | | | 1 | | | | | | 3 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | 2 | | | | | | | | | | | | | | | | | | | |
| Bronchiole, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | |
| Bronchiole, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Serosa, Inflammation, Granulomatous | | | | | | | | | | | | | | | 1 | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| Cataract | | | | | | | | | 1 | 1 | 1 | | 1 | 1 | 4 | | | 3 | | | | 2 | 3 |
| Cornea, Edema | | | | | | | | | | | | | | | 1 | | | | | | | | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | |
| Retina, Degeneration | | | | | | | | | | | | | | 4 | | | | 4 | | | | | 3 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FISCHER 344 RATS FEMALE | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 | |
| 312.5 mg/l | 9 | 2 | 9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 7 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 8 | 8 | 2 | 8 | 2 | |
| | 1 | 9 | 0 | 9 | 7 | 9 | 7 | 9 | 7 | 1 | 8 | 2 | 6 | 7 | 8 | 6 | 8 | 8 | 3 | 9 | 9 | 9 | 9 | 2 | 8 | 9 | | |
| 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 | |
| | 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 | 3 | 3 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 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 | 6 | 7 | |

females
(cont...)

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cyst | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | 3 | | 4 | | | | | | 4 | | | |
| Infarct | | | | | | | | | | 1 | | | | | 3 | | | | | | | | | | | | |
| Nephropathy | 1 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 3 | 4 | 1 | | 2 | 4 | 2 | | | |
| Papilla, Hemorrhage | | | | | | | | | | | 2 | | | | | 1 | | | | | | | | | | | |
| Pelvis, Inflammation, Chronic Active | | | | | | | | | | | 3 | | | | | 3 | | 3 | | | | | 4 | | | | |
| Pelvis, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Infiltration Cellular, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Transitional Epithelium, Hyperplasia | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 0728 | 0728 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | |
| 312.5 mg/l | 0026 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | |
| | 0032 | 0033 | 0032 | 0032 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0034 | 0034 | 0034 | 0034 | 0034 | 0034 | 0034 | 0034 | 0034 | 0034 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | + | + | + | 47 | |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | 50 | 2 1.0 |
| Intestine Large, Rectum
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | 50 | 1 1.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 1.0 |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | + | + | + | 47 | 2 2.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 1.0 |
| Atypia Cellular | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Basophilic Focus | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 46 | |
| Clear Cell Focus | | | X | | | | | | | | | X | | | | | | X | | X | | | | | 12 | |
| Eosinophilic Focus | | | | | X | | X | | | | | | | | | | | X | | | | X | | | 12 | |
| Fatty Change | | | 1 | | | | | | | | 1 | | | | 2 | | | | | | 2 | | 1 | | 8 | 1.4 |
| Fatty Change, Focal | | | 1 | | | | | | | 1 | | | | | | | | 3 | | | 4 | | | | 7 | 2.3 |
| Hepatodiaphragmatic Nodule | | | | | X | | | | | | | | | | | | X | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----|-------|-------|
| | 078 | 077 | 066 | 072 | 077 | 057 | 077 | 066 | 066 | 066 | 077 | 077 | 055 | 077 | 066 | 077 | 077 | 066 | 077 | 077 | | 077 | | |
| ANIMAL ID | 00326 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 1 | 3 1.0 | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 1.5 |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 2.0 |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| Serosa, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | 3 | 9 1.4 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | 7 | 7 |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | 2 | 6 1.2 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 |
| Gingival, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Gingival, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | 49 | 49 |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 3.0 |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | 50 | 50 |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | 50 | 50 |
| Edema | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | 4 | 4 2.0 |
| Hyperplasia, Basal Cell, Focal | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | 6 | 6 1.8 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | 3 | 3 2.3 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | 49 | 49 |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|----------|
| | 078 | 077 | 066 | 076 | 077 | 057 | 077 | 076 | 066 | 066 | 066 | 077 | 077 | 057 | 077 | 066 | 077 | 077 | 066 | 077 | 077 | 077 | 077 | | |
| 312.5 mg/l | 00326 | 00327 | 00328 | 00329 | 00330 | 00331 | 00332 | 00333 | 00334 | 00335 | 00336 | 00337 | 00338 | 00339 | 00340 | 00341 | 00342 | 00343 | 00344 | 00345 | 00346 | 00347 | 00348 | | |
| | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | 003 | | |
| | 26 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | |

Inflammation, Chronic Active

2

1 2.0

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cardiomyopathy | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 50 |
| Endocardium, Hyperplasia | | | | | | | | | | | | | | | | | | | 3 | | | | | 1 3.0 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|--------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | 1 | 2 | | 3 | 3 | | | | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 3 | 34 1.4 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Vacuolization Cytoplasmic | | | | | | | | | | 3 | | | | | | | | | | | | | | | 1 3.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Parathyroid Gland | + | + | + | + | + | + | + | M | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | 48 | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Cyst | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Pars Distalis, Hyperplasia | 1 | 2 | 1 | | | 1 | 4 | | | | 1 | 1 | | | | 3 | 3 | | | | | | | 20 1.8 | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| C-cell, Hyperplasia | | | | | | | | | | | | | 3 | | | | | | | | | 2 | | 5 2.4 | |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | 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

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|--------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|
| 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 | |
| | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 6 | 7 | | 7 | 7 |
| | 2 | 2 | 6 | 2 | 2 | 7 | 2 | 2 | 7 | 8 | 9 | 2 | 2 | 2 | 0 | 7 | 2 | 2 | 6 | 2 | 2 | 2 | |
| 312.5 mg/l | 8 | 7 | 6 | 9 | 7 | 9 | 9 | 2 | 0 | 3 | 1 | 9 | 9 | 7 | 1 | 7 | 7 | 8 | 6 | 8 | 8 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ANIMAL ID | 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 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|-----|-----------|
| Clitoral Gland | + | | | | | | | | | | | | | | | | | | | | 50 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | 3 | 2.7 | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | 1 | 1.8 | |
| | | | | | | | | | | | | | | | | | | | | | 3 | 2 | |
| Ovary | + | | | | | | | | | | | | | | | | | | | | 50 | | |
| Uterus | + | | | | | | | | | | | | | | | | | | | | 50 | | |
| Cervix, Cyst | | | | | | | | | | | | | | | | | | | | | 3 | 2 | 3 2.7 |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2 2 7 1.6 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|---------|
| Bone Marrow | + | | | | | | | | | | | | | | | | | | | | 50 | |
| Lymph Node | + | | | | | | | | | | | | | | | | | | | | 5 | |
| Deep Cervical, Ectasia | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 |
| Deep Cervical, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mediastinal, Infiltration Cellular, Mixed Cell | | | | | | | | | | | | | | | | | | | | | | 2 1 2.0 |
| Lymph Node, Mandibular | M | | | | | | | | | | | | | | | | | | | | 0 | |
| Lymph Node, Mesenteric | + | | | | | | | | | | | | | | | | | | | | 50 | |
| Ectasia | | | | | | | | | | | | | | | | | | | | | 2 | 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
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----|
| | 078 | 077 | 066 | 077 | 077 | 057 | 077 | 077 | 066 | 066 | 066 | 077 | 077 | 057 | 077 | 066 | 077 | 077 | 066 | 077 | | 077 |
| ANIMAL ID | 00326 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | 00033 | |
| Infiltration Cellular, Mast Cell | | | | | | | | | | | | | | | | | | | | | | 1 |
| Infiltration Cellular, Mononuclear Cell | | | | | | | | | | | | | | | | | | | | | | 2 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | 1 |
| Atrophy | | | | | | | | | | | | | | 2 | | | | | | | | 1 |
| Degeneration, Cystic, Focal | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | | | 3 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Galactocele | | | | | | | | | | | | | | | | | | | | | | 3 |
| Hyperplasia | 1 | | | 2 | | | | | | | 2 | | | | | | 3 | | | | 2 | 6 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hyperplasia, Squamous | | | | | | | | | | | | | | 1 | | | | | | | | 1 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | 3 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Compression | | | | | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

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

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | 2 | | | | 1 | 2.0 |
| Alveolar Epithelium, Hyperplasia | 1 | | 1 | | | | | | 3 | | 4 | 2 | | | 1 | 4 | 3 | | 1 | | | | | 14 | 2.1 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Bronchiole, Inflammation, Suppurative | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Bronchiole, Inflammation, Chronic Active | 1 | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.0 |
| Serosa, Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Foreign Body | | | 3 | | | | | | | | | | | 2 | | | | | | 2 | | | | 3 | 2.3 |
| Inflammation | | | 3 | | | | | | | | | | | 2 | | | | | | 2 | | | | 4 | 2.0 |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | 2 | | | | | | | | | | | 1 | 2.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | 48 | | |
| Cataract | | 4 | | | 2 | 2 | | | | | | | 1 | 4 | | | | | | | | | | 14 | 2.1 |
| Cornea, Edema | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | 4 | | | | | | | | | | 1 | 4.0 |
| Retina, Degeneration | | 3 | | | | | | | | | | | | | | | | | | | | | | 4 | 3.5 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | 1 | | | | | | | | | 1 | | | | 2 | 1.0 |
| Zymbal's Gland | | | | | | | | | | | + | + | | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | |
| 312.5 mg/l | 2 | 2 | 6 | 2 | 2 | 7 | 2 | 2 | 7 | 8 | 9 | 2 | 2 | 2 | 0 | 7 | 2 | 2 | 6 | 2 | 2 | 2 | 2 | 2 | |
| | 8 | 7 | 6 | 9 | 7 | 9 | 9 | 9 | 0 | 3 | 1 | 9 | 9 | 7 | 1 | 7 | 7 | 8 | 6 | 8 | 8 | 9 | 9 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | |
| | 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 | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | 1.5 |
| Fibrosis | | 4 | | | | | | | | 3 | | | | | 4 | 4 | | 4 | | | | | | 8 | 3.8 | |
| Infarct | | | | | | 2 | | | | | | | | | | 2 | | | | | | | | 4 | 2.0 | |
| Nephropathy | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 4 | 4 | 2 | 2 | | 3 | 4 | 3 | 4 | 2 | 2 | 2 | 3 | 4 | 3 | 48 | 2.3 |
| Papilla, Hemorrhage | | 1 | | | | | | | | | | | | | 2 | | | | 1 | | | | | 5 | 1.4 | |
| Pelvis, Inflammation, Chronic Active | | 4 | | | | | | | | | | | | | 4 | 3 | | 3 | | | | | | 8 | 3.4 | |
| Pelvis, Metaplasia, Squamous | | | | | | | | | | | | | | | | 4 | | | | | | | | 1 | 4.0 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Infiltration Cellular, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Transitional Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

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

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Cecum | + | + | + | + | A | + | A | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | A | |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | 2 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | 1 X 2 X |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Ileum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | 2 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Basophilic Focus | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | |
| Clear Cell Focus | | | | | | X | | X | | X | | | | | | | | X | | | | | | | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Eosinophilic Focus | | | X | | | | | | | X | X | | | | | | | | X | | | | | | X | |
| Fatty Change | | | | | 1 | | 1 | | | 1 | | | 1 | | | | | | | | | 1 | 1 | | | |
| Fatty Change, Focal | | | | 1 | | | | | | | | | | | | | 2 | | | | | 2 | | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | X | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| Bile Duct, Hyperplasia | 2 | | | | | | | | | 1 | | | | | | | | | | 3 | | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | |
|-------------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------------------|-----------------------|----------|
| | 07
28 | 07
28 | 06
68 | 05
79 | 05
82 | 07
28 | 06
75 | 07
28 | 07
29 | 07
28 | 07
29 | 07
28 | 07
29 | 07
28 | 05
40 | 06
32 | 07
22 | 07
28 | 07
29 | 05
57 | 07
22 | 07
29 | 06
69 | 07
23 | | | 07
28 | 07
25 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0
0
3
5
1 | |

Serosa, Fibrosis
 Vein, Dilatation

2

Mesentery
 Fibrosis
 Fat, Necrosis

+ +
 1 1

+
 2

Oral Mucosa
 Gingival, Foreign Body

Pancreas
 Atrophy
 Infiltration Cellular

+
 1

Salivary Glands

+ +

Stomach, Forestomach
 Fibrosis
 Hyperplasia, Squamous

+
 2 2 1

Stomach, Glandular
 Inflammation, Chronic Active
 Mineralization

+
 2 2

Tongue

CARDIOVASCULAR SYSTEM

Blood Vessel
 Aorta, Mineralization

+
 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

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 Lab: BAT

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(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 | | |
| | 7 | 7 | 6 | 5 | 5 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 6 | 7 | 7 | 7 | 5 | 7 | 7 | 2 | 6 | 7 | 5 | |
| 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 | | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | | | |
| | 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 | |

Heart
 Cardiomyopathy
 Mineralization

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 2 | 3 | 3 | 2 | | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| | | | | 4 | | 4 | | | | | | | | | | | | | | | | | | |

ENDOCRINE SYSTEM

Adrenal Cortex
 Accessory Adrenal Cortical Nodule
 Hyperplasia
 Necrosis
 Vacuolization Cytoplasmic

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 1 | 2 | 3 | | 1 | | | | 1 | | 1 | 2 | 1 | | | 1 | | | | 1 | 2 | | | | 1 |
| | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| | | | | | | | | | | | | | | 2 | | | | | | | | | | |

Adrenal Medulla
 Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Islets, Pancreatic
 Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |

Parathyroid Gland
 Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + |
| | | | | | | | | 1 | | | | | | | | | | | | | | | | |

Pituitary Gland
 Pars Distalis, Cyst
 Pars Distalis, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | X | | | | | | | | | | | | | | | |
| | | 1 | | | 1 | | 2 | | | 3 | | | | 1 | 2 | | | | 1 | 4 | | | 2 | |

Thyroid Gland
 Mineralization
 C-cell, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 1 | 3 | | | | | | | 1 | | | 1 | 1 | | | |

GENERAL BODY 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

TDMS No. 20009 - 03
Test Type: CHRONIC
Route: DOSED WATER
Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
CAS Number: 108-99-6

Date Report Requested: 05/27/2011
Time Report Requested: 10:09:56
First Dose M/F: 11/18/04 / 11/19/04
Lab: BAT

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

**females
(cont...)**

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | 2 | 3 | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | | | | | | | | | | | | | 3 | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cervix, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Vagina | | | | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | | + | | | | | | | | | | | | | | | | | | | |
| Mediastinal, Hemorrhage | | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| Mediastinal, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:
X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate
I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

TDMS No. 20009 - 03
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 Species/Strain: RATS/F 344/N

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 beta-Picoline
 CAS Number: 108-99-6

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 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

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

Infiltration Cellular, Plasma Cell

2

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | 3 | | 3 | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | 2 | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | 3 | | | | | | | | | | | | | | | | | | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Galactocoele | | | 2 | | | | | | | | | | | | 1 | | | | | | | | |
| Hyperplasia | | | 2 | 2 | | | | | | | 2 | | | | | | | | | | 2 | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | |
| Lip, Inflammation, Suppurative | | 1 | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Compression | | | 4 | | | | | | | | | 3 | | | | | | | | 1 | 4 | 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
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| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | | | | |
|-------------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------------------|----------|----------|----------|----------|----------|
| | 07
28 | 07
28 | 06
68 | 05
79 | 05
82 | 07
75 | 06
88 | 07
78 | 07
79 | 07
78 | 07
79 | 07
78 | 07
79 | 05
40 | 06
32 | 07
27 | 07
78 | 05
57 | 07
72 | 06
67 | | | 07
75 | 07
71 | 07
72 | 07
78 | 07
75 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 3 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | 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 | | |

Hemorrhage 3

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thrombosis | | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Alveolar Epithelium, Hyperplasia | | 1 | | | | | | | 1 | 1 | | | 3 | | | | | | | | | | | | |
| Alveolar Epithelium, Metaplasia, Squamous Serosa, Fibrosis | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Foreign Body | | | | | | 2 | | | | | | | 1 | | | | | | | | | | | | |
| Inflammation | | | | | 3 | | | | | | | 1 | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | | | | | 2 | | | | | | | | | | | | | | | | | | | | |
| Turbinate, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cataract | | | | | | 2 | | | | | | | | 2 | 1 | 3 | | | | | | | | | 2 |
| Anterior Chamber, Inflammation, Suppurative Retina, Degeneration | | | | | | | 2 | | | | | | | | | 3 | | | | | | | | | |
| Harderian Gland Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Zymbal's Gland | | | | | | | + | | | | | | | | | | | | | | | | | | |

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| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
| | 0
7
2
8 | 0
7
2
8 | 0
6
6
6 | 0
5
7
9 | 0
5
2
8 | 0
7
6
2 | 0
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8 | 0
7
7
2 | 0
7
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2 | 0
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2 | 0
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4 | 0
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3 | 0
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2 | 0
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2 | 0
5
2 | 0
7
2 | 0
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5 | 0
7
1 | 0
7
2 | 0
7
2 | |
| 625 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
| 0
3
5
1 | 0
0
3
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2 | 0
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4 | 0
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5 | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Dilatation | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Fibrosis | | | | 4 | | 4 | | | | | 4 | 4 | | | | | | | | | | | 2 | | |
| Infarct | | | | | | | | | | 2 | | | | | | | | | | | 1 | 2 | | | |
| Mineralization | | | | 3 | | 3 | | | | | | | | | | | | | | | | | | | |
| Nephropathy | 2 | 1 | 2 | 2 | 4 | 1 | 4 | 3 | 2 | 2 | 4 | 4 | 3 | 1 | 1 | 2 | 3 | 1 | 2 | 2 | 2 | 3 | 1 | 3 | 3 |
| Papilla, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pelvis, Inflammation, Chronic Active | | | | 1 | | 4 | | | | | 4 | 4 | | | | | | | | | | | | 1 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|----------|
| | 07
28 | 06
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08 | 07
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02 | 07
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07 | 07
02 | 06
03 | 07
08 | 07
02 | 07
08 | | |
| ANIMAL ID | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | 00400 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 |
| | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 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 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 | |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 2.0 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 7 1.4 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Small, Ileum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 1.0 |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | 1 2.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Basophilic Focus | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 45 | |
| Clear Cell Focus | | | | | | | | | | X | | X | | X | | X | | X | | X | | X | | X | X | 10 | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Eosinophilic Focus | X | | X | | | | | | | | | | X | X | | | X | X | | | | | X | X | | 13 | |
| Fatty Change | | | | | | | 1 | 2 | | | | 2 | | | 1 | 1 | | | | | | | | | | 11 | 1.2 |
| Fatty Change, Focal | | | | | | | 3 | 4 | | | | 3 | | | | | | | 2 | 2 | | | | | | 8 | 2.4 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Mixed Cell Focus | | | | | | | | | | X | | | | | | | | | | X | | | | | | 3 | |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | 2 | | | | 1 | 1 | | | | | | | | 7 | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|-------------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|-------|
| | 07
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08 | 07
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09 | 07
09 | 04
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02 | 06
03 | | 07
08 | 07
02 | 07
08 | | |
| ANIMAL ID | 00376 | 00037 | 00007 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | | |
| Serosa, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.5 | |
| Vein, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Fat, Necrosis | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | 7 1.1 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Gingival, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | 7 2.0 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Aorta, Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | | 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
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | | |
|-------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-----|---|---|----|-----|-----|
| | 078 | 067 | 075 | 077 | 057 | 075 | 077 | 058 | 076 | 077 | 067 | 076 | 077 | 077 | 077 | 066 | 077 | 074 | 077 | 066 | | 077 | 077 | | | | | |
| ANIMAL ID | 00376 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | 00037 | | | | | | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | |
| Cardiomyopathy | 3 | 2 | 3 | 3 | 2 | 4 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 3 | 3 | 2 | 49 | 2.6 | |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 4.0 | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Hyperplasia | | | 1 | 1 | 2 | 2 | | | | | | | 2 | 1 | | | | | | | 3 | 1 | 1 | 1 | | | 22 | 1.5 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | | 1 | | | | | | | | | 1 | | | | | | 3 | 1.0 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Pars Distalis, Hyperplasia | 2 | | | 2 | 2 | | | 2 | | | | 1 | 2 | 2 | 2 | 2 | | | | | | | | 3 | | 20 | 2.0 | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | | 1 | | 3 | | | | | | | | | 7 | 1.6 |

GENERAL BODY 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|-----------------------|-----------------------|
| FISCHER 344 RATS FEMALE

625 mg/l | DAY ON TEST | 0
7
2
8 | 0
6
0
7 | 0
7
2
8 | 0
5
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9 | 0
7
2
0 | 0
5
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1 | 0
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8 | * TOTALS | | |
| | ANIMAL ID | 0
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6 | 0
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3
9
8 | 0
0
3
9
9 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | | 7 | 8 |

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | 3 | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Fibrosis | 2 | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Hyperplasia | | | | | 3 | 3 | | | | | | | | | | | | | | | | | | 4 | 2.8 |
| Inflammation | 2 | 2 | | | 2 | | | 3 | | | | | | | | | | 3 | | | | | | 6 | 2.2 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Cyst | 2 | | | | | | | | | | | | | | | | 1 | | | | | | | 3 | 1.3 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cervix, Cyst | | | 3 | | | | | | | 3 | | | | | | | 2 | | | | | | | 3 | 2.7 |
| Endometrium, Hyperplasia, Cystic | | 1 | 3 | | 3 | 2 | 2 | | | | | | | | | | | | | | 3 | 1 | | 8 | 2.0 |
| Vagina | | + | | + | | | | | | | | | | | | | | | | | | | | 2 | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|-----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Mediastinal, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | 2 | | | | | | | 1 | 2.0 |
| 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 | 0 | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|----------|
| | 078 | 067 | 075 | 077 | 057 | 075 | 077 | 067 | 076 | 077 | 077 | 077 | 077 | 067 | 072 | 072 | 072 | 072 | 072 | 047 | 072 | 067 | 077 | 077 | |
| ANIMAL ID | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 2 3.0 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Thymus | + | + | + | + | + | + | + | M | + | M | + | + | + | + | + | + | + | + | + | + | + | + | 47 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Galactocele | | | | | | | | | | | | | | | | | | | | | | | 2 | 4 1.8 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 4 2.0 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | |
| Lip, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Compression | | | | | | | | | | | | | | | | | | | | | | | 3 | 9 2.9 | |

* .. 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. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|---|
| FISCHER 344 RATS FEMALE | | 7 | 6 | 7 | 5 | 7 | 7 | 5 | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | 7 |
| | 625 mg/l | 2 | 0 | 2 | 8 | 2 | 0 | 5 | 2 | 8 | 2 | 9 | 2 | 2 | 2 | 9 | 2 | 2 | 7 | 2 | 3 | 2 | 2 | 2 |
| | | 8 | 7 | 8 | 9 | 8 | 0 | 1 | 2 | 9 | 4 | 9 | 3 | 9 | 8 | 8 | 9 | 5 | 9 | 9 | 7 | 4 | 9 | 8 |
| | 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 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| | | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| | | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |

Hemorrhage

1 3.0

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Thrombosis | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | | | 1 | | | | | | 1 | | | | 1 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Serosa, Fibrosis | | | | | | | | | | | | | | 2 | | | | | | | | | | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Respiratory Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Turbinate, Cyst | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cataract | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Anterior Chamber, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 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
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 beta-Picoline
 CAS Number: 108-99-6

Date Report Requested: 05/27/2011
 Time Report Requested: 10:09:56
 First Dose M/F: 11/18/04 / 11/19/04
 Lab: BAT

| DAY ON TEST | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 7 | 6 | 7 | 5 | 7 | 7 | 5 | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 4 | 7 | 6 | 7 | 7 | |
| 2 | 0 | 2 | 8 | 2 | 0 | 5 | 2 | 8 | 2 | 9 | 2 | 2 | 2 | 2 | 9 | 2 | 2 | 7 | 2 | 3 | 2 | 2 | |
| 8 | 7 | 8 | 9 | 8 | 0 | 1 | 9 | 4 | 9 | 3 | 9 | 8 | 8 | 9 | 5 | 9 | 9 | 4 | 9 | 8 | 8 | 9 | |
| ANIMAL ID | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | |
| 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | |
| 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 0 | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|---------------|--|---------------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Dilatation | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Fibrosis | | 2 | | | 3 | | | | | | | 2 | | | | | 2 | | 4 | | | | | 10 3.1 | | |
| Infarct | | | | | | | | | | | | 3 | | | | | | 1 | | | | | | 5 1.8 | | |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | 2 3.0 | | |
| Nephropathy | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 2 | 1 | 4 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 3 | 4 | 3 | 2 | 2 | | 50 2.3 |
| Papilla, Hemorrhage | | | | | 2 | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pelvis, Inflammation, Chronic Active | | 4 | | | 4 | | | | | | | 3 | | | | | | 1 | | 4 | | | | | | 10 3.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |

*** END OF REPORT ***

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