

TDMS No. 2009 - 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

		0	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	7	4	7	5	2	7	7	7	7	3	
FISCHER 344 RATS MALE	0 mg/l	2	7	6	9	6	2	7	2	2	2	2	2	2	2	2	2	6	2	9	7	3	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	
	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	1	
Necrosis							1																				
Vacuolization Cytoplasmic			2						2	1	2	1	2		1	2				1	1						
Bile Duct, Hyperplasia		2	3		3	3		1		2	2	3	3	3	2	2	2		2		2	1	2	2			
Centrilobular, Necrosis					2																						
Periportal, Inflammation			2																								
Mesentery							+			+												+					
Fat, Necrosis											2																
Pancreas		+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Cyst																											
Hyperplasia																	1										
Acinus, Atrophy						1							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

+ .. 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

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FISCHER 344 RATS MALE 0 mg/l	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			
	7	7	4	6	7	6	7	7	7	7	7	7	7	7	7	4	7	5	2	2	7	7	7	7	3	0		
	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	0		
	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	0	0	0	0	0	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	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	0	
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																												

* .. 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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FISCHER 344 RATS MALE	DAY ON TEST																									ANIMAL ID	males (cont...)
	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	1	1	1	1	1	1	1	1	1	1	2	2	2	2		

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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
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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 | 0 | 0 | |
|-----------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|
| 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 | 7 | 7 | 3 | |
| FISCHER 344 RATS MALE | | 2 | 2 | 9 | 6 | 2 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 2 | 9 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 9 | |
| 0 mg/l | | 7 | 6 | 9 | 4 | 6 | 7 | 7 | 7 | 6 | 6 | 7 | 6 | 7 | 6 | 7 | 8 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | males
(cont...) |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | |

Cyst
 Hyperplasia, Squamous

Eye
 Cataract
 Cornea, Inflammation, Chronic Active
 Sclera, Inflammation, Chronic Active

Harderian Gland
 Hyperplasia

Zymbal's Gland

URINARY SYSTEM

Kidney
 Nephropathy

Urinary Bladder

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| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|----------|
| | 078 | 076 | 054 | 077 | 077 | 066 | 066 | 077 | 077 | 066 | 077 | 077 | 077 | 000 | 066 | 077 | 066 | 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 | | |
| | 206 | 207 | 208 | 207 | 208 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|---|-----|-----|
| Esophagus
Inflammation, Suppurative | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 | |
| Intestine Large, Cecum
Necrosis | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | 45 | 2 | 1 | 2.0 |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | 47 | 1 | 3 | 1.3 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | A | + | + | + | + | + | + | 47 | 1 | 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 | 1.0 |
| Liver
Angiectasis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1 | 2.0 |
| Basophilic Focus | | | | | X | | | X | | | | X | | | X | | X | | | | | X | 15 | | | | |
| Clear Cell Focus | | X | | | X | | | | | | | X | X | | X | | | | X | X | X | | X | 13 | | | |
| Degeneration, Cystic | 1 | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 1 | 1.0 | |
| Eosinophilic Focus | | | | | X | | | X | X | | | | | | | | | | | | | | 7 | | | | |
| Fatty Change | | | 3 | | | | | | | | | | | | | 3 | | | | | | 1 | 7 | 2 | 7 | 2.7 | |
| Hepatodiaphragmatic Nodule | | | | | | | | X | | | | | | | | | | | | | | X | 4 | | | | |
| Mixed Cell Focus | | | | | X | | X | | | | | | | | | | | | | | | X | 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:
 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 | |
|------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|--------|
| | 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 | 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
 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 | | | | | |
|-----------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|--------|--|
| | 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 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0026 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | 0030 | |
| 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 | |

* .. 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
 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 | |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|-------|
| | 0728 | 0726 | 0724 | 0722 | 0720 | 0718 | 0716 | 0714 | 0712 | 0710 | 0708 | 0706 | 0704 | 0702 | 0700 | 0698 | 0696 | 0694 | 0692 | 0690 | | 0688 |
| 0 mg/l | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 0038 | 0039 | 0040 | 0041 | 0042 | 0043 | 0044 | 0045 | 0046 | 6 1.3 |
| | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 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
 Hyperplasia, Adenomatous 1 1.0
 Inflammation 2 1 2 1 3 2 2 3 1 2 1 1 1 1 1 1 2 2 1 31 1.7

Seminal Vesicle + 50

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

HEMATOPOIETIC SYSTEM

Bone Marrow + 50

Lymph Node Congestion + + 9
 1 3.0

* .. 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 MALE
0 mg/l | 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
2 | 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 | | | | |
| ANIMAL ID | 0
0
0
2
6 | 0
0
0
2
7 | 0
0
0
2
8 | 0
0
0
2
9 | 0
0
0
3
0 | 0
0
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3
1 | 0
0
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3
2 | 0
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3
3 | 0
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0
3
4 | 0
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3
5 | 0
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6 | 0
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3
7 | 0
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3
8 | 0
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9 | 0
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4
0 | 0
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4
1 | 0
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4
2 | 0
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3 | 0
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4 | 0
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4
5 | 0
0
0
4
6 | 0
0
0
4
7 | 0
0
0
4
8 | 0
0
0
4
9 | | |
| Hyperplasia, Lymphoid
Mediastinal, Congestion
Mediastinal, Ectasia
Mediastinal, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 3.0
1 3.0
1 4.0
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 | | 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
Galactocoele
Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1
2
1 | 50 | 12 1.4
3 1.3 |
| Skin
Cyst Epithelial Inclusion
Hyperplasia, Squamous
Inflammation, Suppurative
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2
4 | 50 | 1 2.0
2 2.5
1 2.0
1 3.0 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 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
 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 | |
|-------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|
| | 0728 | 0726 | 0724 | 0722 | 0720 | 0718 | 0716 | 0714 | 0712 | 0710 | 0708 | 0706 | 0704 | 0702 | 0700 | 0698 | 0696 | 0694 | 0692 | 0690 | | 0688 |
| 0 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ANIMAL ID | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 0038 | 0039 | 0040 | 0041 | 0042 | 0043 | 0044 | 0045 | 0046 | |

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 1 1 12 1.3
 Perivascular, Inflammation, Chronic Active 1 3.0

Nose + 50
 Foreign Body 2 1 1 1 10 1.4
 Inflammation 2 2 1 3 2 1 1 2 2 3 1 3 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 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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically M .. Missing tissue
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 I .. Insufficient tissue BLANK .. Not examined microscopically
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TDMS No. 20009 - 03
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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

| | | 0 | 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 | 5 | 7 | 7 | 6 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 0 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | | | | | | |
| FISCHER 344 RATS MALE | | 2 | 2 | 0 | 2 | 2 | 8 | 7 | 2 | 2 | 5 | 2 | 2 | 2 | 1 | 7 | 2 | 5 | 2 | 1 | 2 | 2 | 8 | 2 | 0 | | | | | | |
| 0 mg/l | | 8 | 6 | 4 | 7 | 8 | 5 | 6 | 6 | 8 | 4 | 7 | 7 | 8 | 6 | 7 | 6 | 8 | 7 | 3 | 6 | 7 | 6 | 3 | 8 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | | 0 | 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 | 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 | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 4.0 | | | |
| Eye | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | |
| Cataract | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.5 | | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3.0 | | |
| Sclera, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3.0 | | |
| Harderian Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 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 | | | |

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 2) Mild 4) Marked

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

ALIMENTARY SYSTEM

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

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 | 0659 | 0578 | 0750 | 0754 | 0714 | 0677 | 0776 | 0776 | 0766 | 0778 | 0777 | 0777 | 0472 | 0722 | 0722 | 0722 | 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 | | |

Necrosis
 Vacuolization Cytoplasmic
 Bile Duct, Hyperplasia
 Centrilobular, Atrophy
 Periportal, Fibrosis
 Vein, Dilatation

Mesentery
 Fat, Necrosis

Pancreas
 Infiltration Cellular
 Acinus, Atrophy

Salivary Glands
 Infiltration Cellular
 Duct, Inflammation

Stomach, Forestomach
 Angiectasis
 Fibrosis
 Hyperplasia, Squamous
 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

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 | 0 | 0 | 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...) |
| | ANIMAL ID | 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 | 7 | |
| 156.25 mg/l | | 3 | 2 | 2 | 2 | 2 | 2 | 9 | 8 | 2 | 4 | 1 | 4 | 2 | 2 | 2 | 6 | 6 | 2 | 2 | 2 | 9 | 2 | 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 | |
| | | 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 | |
| | | 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 | 5 | |

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 | 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 | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | 1 | | 3 | | | 2 | 2 | | | | | 1 | | | | 1 | | | | | | | 2 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pars Distalis, Hyperplasia | | | | | 3 | | | | 2 | | | | | 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

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

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

Seminal Vesicle
Dilatation

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | 3 | | | | | | | | | | | | | |

Testes
Atrophy
Interstitial Cell, Hyperplasia

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | 3 | | | | | | | | 3 | | 3 | | | | 2 | | | | | 2 | | | |
| | | | | | | | 1 | | | | | | | | 1 | | 1 | 1 | | | | 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 | 0776 | 0777 | 0776 | 0765 | 0757 | 0775 | 0776 | 0776 | 0776 | 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 | 0076 | |
| Deep Cervical, Hemorrhage | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | |
| Mediastinal, Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | |
| Mediastinal, Hyperplasia | | | | | | | | | | | | | | | 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 | M | |
| Lymph Node, Mesenteric Ectasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Hyperplasia, Lymphoid Capsule, Hemorrhage | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | |
| Lymphoid Follicle, Depletion Cellular | | | | | | | | | | | | | | | 3 | | | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M |
| Galactocele | | | | | | | | | | | | | | | 1 | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Subcutaneous Tissue, Infiltration Cellular, Mixed Cell | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

| 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 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 5 | 7 | 5 | 7 | 6 | 7 | 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 | 2 | 2 | 2 | | |
| ANIMAL ID | 8 | 8 | 8 | 6 | 7 | 6 | 7 | 9 | 0 | 4 | 7 | 5 | 6 | 6 | 6 | 4 | 8 | 7 | 7 | 8 | 6 | 6 | 6 | 6 | males | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (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 | | |
| | 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 | |

Bone Inflammation, Chronic Active

+ +

3

NERVOUS SYSTEM

Brain Compression

+ +

2

2

3

2

3

RESPIRATORY SYSTEM

Lung Alveolar Epithelium, Hyperplasia
 Alveolar Epithelium, Metaplasia, Squamous

+ +

1

2

1

1

2

Nose Foreign Body Inflammation Mineralization
 Respiratory Epithelium, Hyperplasia
 Respiratory Epithelium, Metaplasia, Squamous
 Squamous Epithelium, Hyperplasia

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

Trachea

+ +

SPECIAL SENSES SYSTEM

Eye Cataract Retina, Degeneration

+ +

2

1

* .. 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

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-----------|--------------------|
| | 0638 | 0728 | 0778 | 0778 | 0778 | 0778 | 0657 | 0575 | 0757 | 0575 | 0776 | 0776 | 0776 | 0776 | 0776 | 0676 | 0776 | 0776 | 0477 | 0776 | 0776 | 0776 | 0776 | 0776 | | | |
| 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 | 00051 | | |

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
 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 | 066 | 067 | 067 | 067 | 066 | 067 | | 067 | | | |
| 156.25 mg/l | 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
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 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 1.4 | |
| Intestine Small, Duodenum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | A | + | + | + | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | 47 | 1 | 1.0 |
| 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 | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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 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 | 076 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | 072 | | 072 |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | |
| | 0076 | 0076 | 0076 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | 0072 | |
| 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 | | 1 | 6 1.2 |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | 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
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 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 | | | | | | | | | | | | | | | | | | | | * TOTALS | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|
| | 0
7
2
8 | 0
7
2
6 | 0
6
6
6 | 0
7
2
7 | 0
7
2
7 | 0
7
2
6 | 0
7
2
8 | 0
5
6
7 | 0
6
9
4 | 0
7
2
6 | 0
6
7
3 | 0
6
9
3 | 0
6
8
4 | 0
7
2
6 | 0
6
8
6 | 0
7
2
6 | 0
7
2
8 | 0
7
2
6 | 0
6
2
4 | 0
7
2
6 | | 0
7
2
6 | 0
7
2
6 | 0
7
2
7 |
| ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | |
| 0
0
0
7
6 | 0
0
0
7
7 | 0
0
0
7
8 | 0
0
0
7
8 | 0
0
0
8
1 | 0
0
0
8
2 | 0
0
0
8
3 | 0
0
0
8
4 | 0
0
0
8
5 | 0
0
0
8
6 | 0
0
0
8
7 | 0
0
0
8
8 | 0
0
0
8
9 | 0
0
0
8
0 | 0
0
0
9
1 | 0
0
0
9
2 | 0
0
0
9
3 | 0
0
0
9
4 | 0
0
0
9
5 | 0
0
0
9
6 | 0
0
0
9
7 | 0
0
0
9
8 | 0
0
0
9
9 | 0
0
0
0
0 | |
| 156.25 mg/l | | | | | | | | | | | | | | | | | | | | | | | | |

CARDIOVASCULAR SYSTEM

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

ENDOCRINE SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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 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 | 077 | 075 | 066 | 077 | 066 | 066 | 077 | 066 | 077 | 066 | 077 | 077 | 077 | 066 | 077 | 077 | 077 | | |
| 156.25 mg/l | 0076 | 0076 | 0066 | 0077 | 0077 | 0022 | 0077 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | | |
| | 0076 | 0076 | 0078 | 0077 | 0088 | 0088 | 0088 | 0088 | 0088 | 0088 | 0088 | 0088 | 0088 | 0088 | 0099 | 0099 | 0099 | 0099 | 0099 | 0099 | 0099 | 0099 | 0099 | | |

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 10 1.4

Prostate
 Inflammation

+ 50
 2 2 1 2 1 2 1 2 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 9 2.9
 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 18 1.1

HEMATOPOIETIC SYSTEM

Bone Marrow

+ 50

Lymph Node

+ 11

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| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 078 | 076 | 072 | 077 | 077 | 077 | 077 | 056 | 066 | 077 | 066 | 066 | 077 | 066 | 077 | 066 | 077 | 077 | 077 | 066 | 077 | 077 | 077 | | |
| 156.25 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 | 2 | |
| 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 | 0 |

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 + 50
 Ectasia 1 2 2 1.5

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

Thymus + + + + + + + + + + + + + + + + + M + + + + + 49

INTEGUMENTARY SYSTEM

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

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

MUSCULOSKELETAL SYSTEM

* .. 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
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TDMS No. 20009 - 03
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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 | 072 | 077 | 077 | 072 | 077 | 056 | 066 | 077 | 066 | 066 | 077 | 066 | 077 | 066 | 077 | 077 | 066 | 077 | | 077 | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | 9 2.7 |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | |
| Lung Alveolar Epithelium, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 11 1.5 |
| Lung Alveolar Epithelium, Metaplasia, Squamous | | | | 1 | | | | 4 | | | 1 | 1 | | | | 1 | | | | 1 | | 1 | 1 1.0 |
| Nose Foreign Body | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 20 1.5 |
| Nose Inflammation | | | | | 1 | | | | 2 | 1 | | 2 | 1 | 1 | | | 3 | 2 | | 1 | | 1 | 23 2.0 |
| Nose Mineralization | | | | | | | | | | 1 | | | | | | | | | | | | 1 | 1 1.0 |
| Nose Respiratory Epithelium, Hyperplasia | | | | | 1 | | | | | 1 | | | | 2 | | | 3 | 2 | | 2 | | 1 | 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 | 3 1.3 |
| Eye Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | 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:
 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 | 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 | 0077 | 0078 | 0078 | 0078 | 0078 | 0078 | 0078 | 0078 | 0078 | 0078 | 0078 | 0078 | 0079 | 0079 | 0079 | 0079 | 0079 | 0079 | 0079 | 0079 | 0079 | | |
| | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | 0076 | 0077 | 0078 | 0079 | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | 0089 | | |
| 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 1.0 |
| Renal Tubule, Hyperplasia | | | | | | | | 2 | | | | | | | | | | | | | | | | | 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 | 0766 | 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 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 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
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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

| 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
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6 | 0
6
5
7 | 0
7
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7 | 0
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7 | 0
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7 | 0
7
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7 | 0
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7 | 0
7
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7 | 0
6
2
8 | 0
7
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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
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 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

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

| | | 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 | DAY ON TEST | 7 | 7 | 5 | 3 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 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 | 7 | 8 | 3 | 7 | 6 | 7 | 5 | 7 | 8 |
| 312.5 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 |
| | | 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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Preputial Gland
Cyst
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Prostate
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Seminal Vesicle
Inflammation | 2 | 2 | 2 | | 1 | 1 | 1 | 1 | | 2 | 1 | 1 | 2 | | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 4 |
| Testes
Atrophy
Interstitial Cell, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | 3 | | | | | | | | | | | | | | 3 | | | 1 | | | | | | |
| | | | 1 | | | 1 | | | | | | 1 | | | | | 2 | | | | 1 | 2 | | 1 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node
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 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

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

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|------------------|------------------|------------------|---|
| | 0
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6 | 0
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9 | 0
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3 | 0
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8 | 0
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1 | 0
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3 | 0
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2
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2
6 | |
| 312.5 mg/l | 0
1
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1 | 0
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0
1 | | |
| Ectasia
Inflammation, Granulomatous | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| Spleen
Inflammation, Granulomatous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | M | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Galactocele | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain
Compression
Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | 1 | | | 3 | | | | | | | | | | | | | | |
| | | | | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung
Alveolar Epithelium, Hyperplasia
Perivascular, Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | 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
 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
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6
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8 | 0
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7 | 0
6
7
4 | 0
7
2
2 | 0
6
7
1 | | | 0
7
2
2 | 0
7
2
2 | 0
7
2
2 |
| 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 | |
| Pelvis, Inflammation, Chronic Active | | | | | | | | 1 | | | | | | | | | | | | | | | 4 | | |
| 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
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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
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* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
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 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|----|----|----|----|----|----|
| | 07 | 07 | 06 | 07 | 07 | 07 | 05 | 07 | 07 | 07 | 06 | 07 | 07 | 07 | 06 | 07 | 06 | 06 | 07 | 07 | | 07 | 07 | 07 | 07 | 07 | 07 |
| 312.5 mg/l | 02 | 07 | 01 | 02 | 02 | 02 | 08 | 02 | 02 | 02 | 04 | 02 | 02 | 02 | 04 | 02 | 04 | 09 | 02 | 01 | 02 | 00 | 02 | 02 | 02 | 02 | 02 |
| 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 | 00 | 00 | 00 |
| | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| | 22 | 22 | 22 | 22 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| | 66 | 77 | 88 | 99 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 00 | 01 | 02 |
| Vacuolization Cytoplasmic Bile Duct, Hyperplasia | 1 | 2 | | | | 2 | 2 | | | | | | | | 2 | | | 1 | | | | | | 1 | | | |
| Centrilobular, Necrosis | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 |
| Periportal, Inflammation | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Infiltration Cellular Acinus, Atrophy | 1 | 3 | | 1 | 1 | | 3 | 1 | | 1 | | | 3 | | 1 | | 2 | 1 | 1 | | 3 | 1 | 2 | 1 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach Edema | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibrosis Hyperplasia, Squamous Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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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 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 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 50 |
| ANIMAL ID | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 50 |

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

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | 1 | 2 | 2 | 1 | 2 | 2 | | 3 | | | | 1 | | 1 | | 1 | | | | 1 | 2 | | | 27 | 1.4 |
| Necrosis | | | 1 | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Hyperplasia | 1 | | | | 2 | | 2 | 2 | | | | 1 | | | | 1 | | | 1 | | | 1 | | 13 | 1.3 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst | | | 1 | | | | | | | | | | | | | | | | | | | | | 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 | 1 | | | | 2 | | 1 | | 1 | | | | | | | | | | | | | | 1 | 11 | 1.1 |
| Follicular Cell, Hyperplasia | | | | | | | | | | | | | 1 | | | | | | | | | | | 1 | 1.0 |

GENERAL BODY SYSTEM

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

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 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|-----------------------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|----|----|----|----|----|
| | 07 | 07 | 06 | 07 | 07 | 07 | 05 | 07 | 07 | 07 | 06 | 07 | 07 | 07 | 06 | 07 | 06 | 06 | 07 | 07 | | 07 | 07 | 07 | 07 | 07 |
| 312.5 mg/l | 26 | 27 | 18 | 27 | 27 | 26 | 86 | 27 | 28 | 27 | 43 | 27 | 28 | 66 | 48 | 26 | 62 | 98 | 13 | 22 | 01 | 27 | 26 | 21 | 50 | |
| 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 | | |
| | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | | |
| | 22 | 22 | 22 | 22 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 55 | |
| | 66 | 77 | 88 | 99 | 00 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 00 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | | |

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Lymph Node
Mediastinal, Ectasia
Mediastinal, Hemorrhage
Mediastinal, Hyperplasia | + | | + | | | | | + | | + | | + | | | | | | | + | | | | | | 11 | 4 | 3.3 |
| | 2 | | | | | | | 3 | | | | 3 | | | | | | | | | | | | | 1 | 2.0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 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 | 50 | |
| 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
 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 | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|--------|--|
| | 072677577626 | 072777777777 | 072877777777 | 072977777777 | 073077777777 | 073177777777 | 073277777777 | 073377777777 | 073477777777 | 073577777777 | 073677777777 | 073777777777 | 073877777777 | 073977777777 | 074077777777 | 074177777777 | 074277777777 | 074377777777 | 074477777777 | 074577777777 | 074677777777 | 074777777777 | 074877777777 | 074977777777 | | | |
| ANIMAL ID | 001267 | 001277 | 001287 | 001297 | 001307 | 001317 | 001327 | 001337 | 001347 | 001357 | 001367 | 001377 | 001387 | 001397 | 001407 | 001417 | 001427 | 001437 | 001447 | 001457 | 001467 | 001477 | 001487 | 001497 | | | |
| Foreign Body | 2 | 3 | | | | | | | | | | | | | 1 | 2 | 1 | | | | | | | | 15 1.5 | | |
| Inflammation | 2 | 3 | | | | | | | 1 | 2 | | | | | | | 2 | 2 | | | | | | | 16 1.9 | | |
| Nasolacrimal Duct, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Nasolacrimal Duct, Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Nasolacrimal Duct, Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Respiratory Epithelium, Hyperplasia | 2 | 2 | | | | | | | | | | 2 | | | 1 | 2 | 2 | | | | | | | | 15 1.6 | | |
| Squamous Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| 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 | 50 3.2 | |
| 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
 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

* .. 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...) | |
|-----------------------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|--------------------------|--------|
| | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | | | 07 |
| 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 | 000000000000000000000000 | 115511 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | 2 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 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

| DAY ON TEST | FISCHER 344 RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|--|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|--------------------------|--------------------|
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| Vacuolization Cytoplasmic Bile Duct, Hyperplasia | | | 1 | | 1 | 1 | 1 | | 1 | 3 | | 1 | | 1 | 1 | | 1 | | | | 1 | | | | | 222223132112122133 | |
| Mesentery Fat, Necrosis | | | | | | | | | | + | + | | | | | | | | | | + | | | + | 22222 | | |
| Pancreas Hyperplasia Lipomatosis Acinus, Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 112311112113111 | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Stomach, Forestomach Fibrosis Hyperplasia, Squamous Inflammation Ulcer | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 232212344223 | | |
| Stomach, Glandular Inflammation, Chronic Active Ulcer | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 21111 | | |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------------------------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Heart Cardiomyopathy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 3233323231332133323222332 |

* .. 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
 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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| 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
1
5
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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | I | + | + | + |
| 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 | | |
| 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
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1
5
1 | males
(cont...) | |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 |
| Preputial Gland
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1
2
1
1
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
 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 | | | | | | | | | | | | | | | | | | | | | | | | | 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 | | |
| 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 | 00151 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Spleen Necrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Capsule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland Galactocele | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | 1 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 |
| Skin Subcutaneous Tissue, Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Hyperostosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 1 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | | | + |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain Compression Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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 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 | 0 | 0 | 0 | 0 | males
(cont...) | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 5 | 5 | 7 | 7 | 6 | 6 | 7 | 6 | 7 | 5 | 7 | 7 | 6 | 7 | 6 | 7 | | 6 |
| 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 |
| | | 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 | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Granulomatous Alveolar Epithelium, Hyperplasia | | | | | | | | 2 | | | | | | | | | 1 | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 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

| DAY ON TEST | FISCHER 344 RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | |
|-------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|--------------------|--------|--------|
| | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | 070227 | | | 070227 | 070227 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000015 | |

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:
 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
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|-----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
| | 0726 | 0727 | 0728 | 0661 | 0663 | 0649 | 0666 | 0666 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0666 | 0777 | 0555 | | 0777 | 0666 | 0555 | 0666 |
| ANIMAL ID | 00176 | 00177 | 00178 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum
Inflammation, Chronic Active | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48
1 1.0 |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49
1 2.0 |
| Intestine Large, Rectum
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
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

| FISCHER 344 RATS MALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|-----|-----|
| | 0726 | 0727 | 0728 | 0621 | 0623 | 0629 | 0631 | 0637 | 0638 | 0641 | 0647 | 0648 | 0650 | 0656 | 0657 | 0671 | 0672 | 0677 | 0678 | 0684 | 0685 | 0690 | | | |
| ANIMAL ID | 001766 | 001767 | 001768 | 001769 | 001770 | 001771 | 001772 | 001773 | 001774 | 001775 | 001776 | 001777 | 001778 | 001779 | 001780 | 001781 | 001782 | 001783 | 001784 | 001785 | 001786 | 001787 | | | |
| Vacuolization Cytoplasmic Bile Duct, Hyperplasia | 2 | 1 | | 1 | | | | | | | | | | | | 2 | | | | | | 2 | 16 | 1.3 | |
| Mesentery Fat, Necrosis | 2 | 2 | 3 | 1 | | | | 3 | 3 | 3 | 3 | 2 | | | 2 | 3 | 2 | 2 | 1 | 1 | 2 | | 2 | 42 | 2.0 |
| Pancreas Hyperplasia Lipomatosis Acinus, Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | A | + | + | 48 | |
| Salivary Glands | | | 1 | 1 | 3 | | 3 | 2 | 3 | 2 | | | 1 | | 4 | | 2 | | | | | | 25 | 1.7 | |
| Stomach, Forestomach Fibrosis Hyperplasia, Squamous Inflammation Ulcer | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Stomach, Glandular Inflammation, Chronic Active Ulcer | | | | 4 | 2 | 4 | | 2 | | | | | | 3 | 4 | | 2 | 2 | 2 | | | | 17 | 2.7 | |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Heart Cardiomyopathy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 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:
 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 |
|-----------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | 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 | |
| 625 mg/l | 2 | 2 | 2 | 1 | 3 | 9 | 9 | 8 | 2 | 0 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 2 | 2 | 4 | 9 |
| | 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 | 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 | 8 | 9 | 0 |

Epicardium, Inflammation, Chronic Active

1

1 1.0

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Accessory Adrenal Cortical Nodule | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | 2 |
| Hyperplasia | 1 | 2 | | 2 | 1 | | 2 | | | 1 | | | 3 | 1 | 1 | 1 | | | | | | 2 | | 1 | 21 |
| 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 |
| Necrosis | | | | | | | 3 | | | | | | | | | | | | | | | | | | 1 |
| Pars Distalis, Hyperplasia | | | | | | | | | | 2 | 2 | | 3 | | | | 3 | | | | | | 2 | | 12 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 2.0 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Hyperplasia | 2 | | | | | | | | | 2 | | | 1 | | | | | | | | | | | | 7 |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 1.9 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 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:

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 | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|---|---|---|---|
| | 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 | 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 |
| | 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 | |
| | 7 | 7 | 7 | 7 | 8 | 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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 2.0 |
| Hyperplasia, Adenomatous | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Inflammation | 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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 3 | 3.3 |
| Interstitial Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | 13 | 1.1 |

HEMATOPOIETIC SYSTEM

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

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 | 0668 | 0669 | 0499 | 0669 | 0668 | 0667 | 0666 | 0665 | 0664 | 0663 | 0662 | 0661 | 0660 | 0659 | 0658 | 0657 | 0656 | | 0655 | 0654 | 0653 | 0652 | 0651 | 0650 |
| ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 625 mg/l | 0076 | 0077 | 0078 | 0008 | 0009 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Spleen Necrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Capsule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 | |
| Capsule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland Galactocele | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 12 1.4 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 5 1.4 | |
| Skin Subcutaneous Tissue, Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Active | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Hyperostosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperostosis | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain Compression Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Compression | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 2.6 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | | 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 | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|-----------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|------|
| | 0726 | 0727 | 0728 | 0621 | 0623 | 0629 | 0631 | 0637 | 0638 | 0644 | 0646 | 0652 | 0653 | 0659 | 0661 | 0667 | 0668 | 0674 | 0676 | 0682 | | 0683 |
| 625 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| ANIMAL ID | 00176 | 00177 | 00178 | 00179 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | |

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 | | | | | | 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
 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 | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|---|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|----------|
| | 076 | 077 | 078 | 061 | 063 | 064 | 066 | 067 | 068 | 070 | 071 | 072 | 073 | 074 | 075 | 076 | 077 | 078 | 065 | 069 | 074 | 075 | 076 | 079 | |
| 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 | |
| ANIMAL ID | 00176 | 00177 | 00178 | 00101 | 00103 | 00104 | 00106 | 00107 | 00108 | 00110 | 00111 | 00112 | 00113 | 00114 | 00115 | 00116 | 00117 | 00118 | 00105 | 00109 | 00114 | 00115 | 00116 | 00120 | |
| | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 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 | |
| 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 | 2 | 4 | 2 | 2 | 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...) |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
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9 | 0
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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 | X | X | X | X |
| Clear Cell Focus | | | | X | | | | | X | X | | | | | | | | | | 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
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 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
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
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2 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | | |
| 0 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0
0
2
0
1 | 0
0
2
0
2 | 0
0
2
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3 | 0
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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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9 | 0
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0
0 | 0
0
2
0
1 | 0
0
2
0
2 | 0
0
2
0
3 | 0
0
2
0
4 | 0
0
2
0
5 | |
| 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...) |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
| | 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 | | |
| 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 | |

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 |

* .. 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 | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|-----------|----------------------|
| | 0
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9 | 0
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8 | 0
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7 | 0
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1
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
8 | 0
7
2
9 | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Spleen
Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Thymus
Cyst
Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Galactocele
Hyperplasia
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Skin
Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone
Hyperostosis
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain
Compression | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |

* .. 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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 1) Minimal 3) Moderate
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TDMS No. 20009 - 03
 Test Type: CHRONIC
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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 FEMALE
0 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 | | |
| | 7 | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | | |
| | 1 | 1 | 4 | 2 | 1 | 2 | 2 | 1 | 8 | 2 | 2 | 0 | 2 | 5 | 2 | 2 | 2 | 8 | 9 | 8 | 2 | 1 | 2 | | |
| | 2 | 4 | 4 | 9 | 5 | 8 | 8 | 9 | 8 | 7 | 9 | 0 | 7 | 4 | 9 | 7 | 8 | 9 | 8 | 2 | 8 | 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 | | |
| | 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 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | | | |

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 | | | | | | | | | | | | | | | | | | | | | | | 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
 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 | | | | | | | | | | | | | | | | | | | | | | | | | 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 | 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 | 5 | 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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. 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
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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 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 | | | | | | 2 | 10 1.8 | |
| Vein, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | 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 | 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:
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TDMS No. 20009 - 03
 Test Type: CHRONIC
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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 FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----------|
| | 079 | 077 | 077 | 053 | 057 | 062 | 077 | 077 | 077 | 077 | 066 | 077 | 077 | 066 | 066 | 066 | 077 | 077 | 077 | 066 | 077 | 066 | 077 | | |
| 0 mg/l | 0029 | 0019 | 0019 | 0011 | 0019 | 0011 | 0012 | 0012 | 0018 | 0017 | 0018 | 0011 | 0017 | 0019 | 0012 | 0015 | 0019 | 0018 | 0018 | 0019 | 0019 | 0013 | 0018 | 50 | |
| ANIMAL ID | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 50 | |
| | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 50 | |

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 | | | | | | | | | | | | | | | | | | | | | | | | 0 | |

* .. 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
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 beta-Picoline
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 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|----------|
| | 079 | 072 | 070 | 071 | 073 | 075 | 076 | 077 | 078 | 079 | 070 | 071 | 072 | 073 | 074 | 075 | 076 | 077 | 078 | 079 | 070 | 071 | 072 | | |
| 0 mg/l | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | | |
| | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | | |
| | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | 222 | | |
| | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | 678 | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | 4 | | | | 3 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | 4 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Galactocele | | | | 1 | | | | | | | 2 | | 1 | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | 1 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Fibrosis | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Hyperostosis | | | | | | | | | | | | | | | | | | | | 3 | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Compression | | 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
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 BLANK .. Not examined microscopically
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TDMS No. 20009 - 03
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Date Report Requested: 05/27/2011
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| FISCHER 344 RATS FEMALE | 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 | | |
| 0 mg/l | 0029 | 0011 | 0029 | 0031 | 0079 | 0061 | 0077 | 0077 | 0077 | 0068 | 0077 | 0077 | 0077 | 0066 | 0066 | 0066 | 0077 | 0077 | 0077 | 0066 | 0077 | 0066 | 0077 | 50 | |
| ANIMAL ID | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 50 | |
| | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2233 | 2233 | 2233 | 2233 | 2233 | 2233 | 2233 | 2233 | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 | 50 | |

RESPIRATORY SYSTEM

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

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Cataract | | | | | | | | | | | | | | | | | | | | | | | | | 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 2.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
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M .. Missing tissue
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| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|----|
| | 079 | 070 | 072 | 073 | 075 | 076 | 077 | 077 | 077 | 077 | 076 | 077 | 077 | 077 | 066 | 066 | 066 | 067 | 067 | 067 | 067 | 066 | 067 | 067 | | |
| 0 mg/l | 0029 | 0011 | 0029 | 0031 | 0079 | 0011 | 0008 | 0007 | 0007 | 0008 | 0008 | 0001 | 0009 | 0007 | 0001 | 0002 | 0005 | 0009 | 0008 | 0008 | 0009 | 0009 | 0003 | 0007 | 0008 | 49 |
| | 0022 | 0022 | 0022 | 0022 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 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 |

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 X .. Lesion present
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 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 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | |
| 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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 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
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 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 FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | |
| | 06 | 07 | 05 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
| | 01 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Mixed Cell Focus | | | | | | | | | | | X | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Vein, Infiltration Cellular, Mixed Cell | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesentery | + | | | | + | | | | | | | | | | | + | + | | | | | | | | + |
| Fat, Necrosis | 1 | | | | 2 | | | | | | | | | | | 2 | 2 | | | | | | | | 1 |
| 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 | 2 | 3 | 1 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| 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
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TDMS No. 20009 - 03
Test Type: CHRONIC
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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 FEMALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|----------------------|
| | 0
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7 | 0
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2 | 0
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3 | 0
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4 | 0
6
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5 | | |
| 156.25 mg/l | 0
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3 | 0
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4 | 0
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5 | 0
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9 | 0
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5 | 0
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6 | 0
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8 | 0
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9 | 0
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0 | 0
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7
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2 | 0
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7
3 | 0
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4 | 0
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7
5 | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Amyloid Deposition | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| Hyperplasia | 1 | | 1 | | | | | 1 | 3 | | | | 1 | | 2 | 2 | | 2 | | | 2 | 1 | 1 | | 1 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Pars Distalis, Hyperplasia | | | | | | | | | | 1 | 3 | | 1 | | 1 | 2 | | 3 | 2 | | 2 | | 1 | 1 | |
| Thyroid Gland | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| C-cell, Hyperplasia | | | | 2 | | | 3 | | | | | | | | | | | | | | | | | | |
| Follicle, Cyst | | | | | | | | | 1 | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

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

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
M .. Missing tissue
A .. Autolysis precludes evaluation
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 CAS Number: 108-99-6

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 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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| 156.25 mg/l | 0
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|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | 1 | | | | | | | | | | 4 | | 4 | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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
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 beta-Picoline
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 Lab: BAT

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
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| 156.25 mg/l | 0
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|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | | | | | | 1 | | | | | | | | | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

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

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Compression | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | 2 | | | | | | 2 | | | | | | | 3 | | | | | | | | | 1 | | |
| 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

| DAY ON TEST | FISCHER 344 RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0614 | 0706 | 0531 | 0729 | 0779 | 0676 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | | |
| 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 Serosa, Fibrosis | | 1 | | | | | | | | | | 1 | | | | | | | | | | | 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

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | females
(cont...) |
|--------------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|
| DAY ON TEST | | 6 | 7 | 5 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | | |
| FISCHER 344 RATS FEMALE | | 1 | 0 | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 0 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 4 | 2 | | |
| 156.25 mg/l | | 4 | 6 | 1 | 9 | 9 | 6 | 9 | 7 | 7 | 8 | 8 | 9 | 6 | 2 | 9 | 8 | 8 | 7 | 6 | 7 | 8 | 8 | 7 | 2 | 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 | |
| | | 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 | |
| | | 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 | |
| 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 | 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 | 0777 | |
| 156.25 mg/l | 0076 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 |
| | 0076 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 |
| | 0076 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 | |
| Intestine Large, Colon | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1.0 | |
| Parasite Metazoan | | | | | | | 1 | | | | 2 | | | | | | | | | | | | | 2 | 1.5 |
| Intestine Large, Rectum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1.0 |
| Parasite Metazoan | | | | 2 | 2 | | | | | | | | 3 | | | | 1 | 1 | | | | | | 8 | 1.7 |
| Intestine Small, Duodenum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | |
| Intestine Small, Ileum | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | |
| Inflammation, Chronic Active | | | | 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 | 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
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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 | 0727 | | |
| 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 | 0000 | | |
| Inflammation, Chronic Active
Mixed Cell Focus | 2 | | | | | | | | | | | | | | | | | | | | | | | | | 4
2 | 1.5 |
| Vacuolization Cytoplasmic
Bile Duct, Hyperplasia | 2 | | | X | | | | | | | | | | | | | | | | | | | | | | 1
2 | 2.0 |
| Vein, Infiltration Cellular, Mixed Cell | | | | 2 | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Mesentery
Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | + | + | | 7
6 | 1.7 |
| Pancreas
Cyst | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2 | 1.5 | |
| Salivary Glands
Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | 2.0 | |
| Stomach, Forestomach
Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | 2.0 | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 2.2 | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2.5 | |
| Stomach, Glandular
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 | 1.0 | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cardiomyopathy | 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 | 50 | 2.5 |
| Atrium, Thrombosis | | | | | | | | | | | | | | | | | | | | | | | | | 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
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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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 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 | 0727 | | |
| ANIMAL ID | 00076 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 00100 | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | | | | 3 | | | | | | | | | | | | | 1 3.0 | |
| Hyperplasia | | 4 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | 4 2.3 | |
| Inflammation | | | | | | | | | | | | | 3 | | | | | | | | | | 2 | | | 5 2.8 | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | 4 | | | | | | | | 1 4.0 | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Cyst | | | | | | | | | | 2 | | | | | 2 | | | | | | | | | | | 3 2.0 | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hemorrhage | | | | 2 | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | 4 | | | | 1 4.0 | |
| Cervix, Cyst | | | | | | | | | | | | 3 | | | | | | | | | | | 3 | | | 2 3.0 | |
| Endometrium, Hyperplasia, Cystic | 1 | | | | 1 | | 1 | | | | 1 | | 1 | | | | | | | | | | 2 | | | 8 1.1 | |
| Vagina | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Fibrosis | | | | | | | 3 | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | |
| Deep Cervical, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | 3 | | 1 3.0 | |
| Mediastinal, Ectasia | | | 2 | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 1.0 | |
| Mediastinal, Hyperplasia | | | | | | | | | | | | | | | | | 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 | 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
 CAS Number: 108-99-6

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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 | 0100 | | |
| 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

| 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 | |
| 156.25 mg/l | 006 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 50 |
| ANIMAL ID | 006 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 007 | 50 |

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 | 006 | 007 | 007 | 009 | 009 | 005 | 009 | 008 | 008 | 008 | 009 | 007 | 008 | 000 | 007 | 008 | 008 | 005 | 006 | 008 | 005 | 008 | 004 | 005 | | |
| | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | | |
| | 276 | 277 | 277 | 279 | 279 | 275 | 279 | 278 | 278 | 278 | 279 | 277 | 278 | 270 | 277 | 278 | 278 | 275 | 276 | 278 | 275 | 278 | 274 | 275 | | |
| 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 | 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
 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 | 0691 | 0729 | 0672 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0676 | 0776 | 0777 | 0777 | 0575 | 0772 | 0772 | 0676 | 0772 | 0772 | 0772 | 0575 | 0772 | ANIMAL ID | females
(cont...) |
| | 312.5 mg/l | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | 0030 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| Intestine Small, Jejunum
Inflammation, Chronic Active | + | + | + | + | + | 2 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| 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
 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 | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|------|------|
| | 0691 | 0729 | 0690 | 0729 | 0779 | 0779 | 0779 | 0779 | 0779 | 0779 | 0676 | 0776 | 0676 | 0776 | 0776 | 0575 | 0776 | 0776 | 0676 | 0776 | | | 0776 | 0776 |
| Inflammation, Chronic Active | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | | | | | | | | | |
| Necrosis | | | | | | | | | | 2 | | | | 1 | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | 2 | | | | | | | | |
| Bile Duct, Hyperplasia | | | | 2 | 1 | 2 | | | | 1 | | | | | | 1 | | | | | 1 | | | |
| Serosa, Fibrosis | | | | | | | | | | 1 | | | | | | | | | | | | | | |
| Mesentery | | | | | | | | | | + | | | | + | | + | | | | | | | + | + |
| Fat, Necrosis | | | | | | | | | | 1 | | | | 1 | | 1 | | | | | | | 1 | 1 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | |
| Gingival, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | |
| Gingival, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| Atrophy | | | | | | | | | | | | | | | | 3 | | | | | | | | |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Basal Cell, Focal | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. 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 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | 0662 | |
| 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 | 00349 | |

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
2 | 50 | 1 1.0
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
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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

| 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 | |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | + | 2 | 6 1.2 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Gingival, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Gingival, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | 49 | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Edema | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4 2.0 |
| Hyperplasia, Basal Cell, Focal | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 1 | 6 1.8 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3 2.3 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | 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 | 072 | 077 | 057 | 077 | 066 | 066 | 066 | 077 | 077 | 055 | 077 | 066 | 077 | 077 | 066 | 077 | 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 | 00349 | 00350 | 1 | 2.0 |
| 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 | 3 | 2 | 50 | 2.6 |
| Endocardium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 3.0 | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|--|---|---|---|--|---|---|--|---|---|--|---|---|--|---|---|--|---|---|---|----|-----|-------|-----|
| Adrenal Cortex | + | | | | | | | | | | | | | | | | | | | | | | | | 50 | | |
| Hyperplasia | | | | | 1 | 2 | | | 3 | 3 | | | | | 1 | 1 | | | | | 1 | 1 | 1 | 1 | 1 | 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 | + | | | | | | | | | | | | | | | | | | | | | | | | 48 | | |
| Pituitary Gland | + | | | | | | | | | | | | | | | | | | | | | | | | 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 | 5 2.4 | |
| Follicle, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 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

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 | | | | |
| 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 6 | 7 | 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 | 2 | 2 | | |
| 8 | 7 | 6 | 9 | 7 | 9 | 9 | 2 | 0 | 3 | 1 | 9 | 9 | 7 | 1 | 7 | 7 | 8 | 6 | 8 | 8 | 9 | 8 | 8 | 8 | 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 | 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 |
| 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 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 | 0 | 0 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | | | | 2 | | | | | | | | | | | | | | | | | 2 | 2.0 |
| Fibrosis | | | | | | | | | | | | 2 | | | | | | | | | | | | | | 1 | 2.0 |
| Hyperplasia | | | | | | | | 3 | | | | | | | | | | | | | | | | | | 3 | 2.7 |
| Inflammation | | | | | | | | | 1 | | | | | | | | | | 3 | 2 | | | | | | 6 | 1.8 |
| 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 | 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 | | |
| 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 | 077 | |
| ANIMAL ID | 00326 | 00033 | 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 | 1.0 | |
| Infiltration Cellular, Mononuclear Cell | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Atrophy | | | | | | | | | | | | | | 2 | | | | | | | | | 1 | 2.0 |
| Degeneration, Cystic, Focal | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 3.0 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Galactocele | | | | | | | | | | | | | | | | | | | | | | | 3 | 1.3 |
| Hyperplasia | 1 | | | 2 | | | | | | | 2 | | | | | | 3 | | | | 2 | | 6 | 1.8 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 3.0 |
| Hyperplasia, Squamous | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | 1.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | 3 | 2 | 3.5 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Compression | | | | | | | | | | | | | | 1 | | | 2 | | | | | 1 | 7 | 1.9 |

* .. 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

| 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
6
8
8 | 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
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
1 | 0
7
1
2 | 0
7
2
8 | 0
5
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
3
5
1 | | |

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | |
| 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 |
| 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 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
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
 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 | | |
|-------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|
| | 0728 | 0678 | 0759 | 0778 | 0570 | 0751 | 0772 | 0679 | 0764 | 0773 | 0777 | 0778 | 0778 | 0778 | 0778 | 0778 | 0778 | 0778 | 0778 | 0778 | | 0778 | |
| ANIMAL ID | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | | |
| Serosa, Fibrosis | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.5 | |
| Vein, Dilatation | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | 8 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Fat, Necrosis | 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
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|-------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----|
| | 078 | 067 | 075 | 077 | 075 | 077 | 052 | 078 | 067 | 076 | 077 | 077 | 077 | 077 | 067 | 077 | 074 | 077 | 067 | 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 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cardiomyopathy | 3 | 2 | 3 | 3 | 2 | 4 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 49 |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | 2.6 |
| | | | | | | | | | | | | | | | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | 4.0 |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hyperplasia | | | 1 | 1 | 2 | 2 | | | | | | | 2 | 1 | | | | | 3 | 1 | 1 | 1 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | 22 |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | 1.5 |
| | | | | | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | 2.0 |
| | | | | | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | 2.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | 1 | | | | | | | | 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 | | 2 | | | | 3 | 20 |
| | | | | | | | | | | | | | | | | | | | | | | 2.0 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | 1 |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | 1 | | 3 | | | | | 7 |
| | | | | | | | | | | | | | | | | | | | | | | 2.0 |
| | | | | | | | | | | | | | | | | | | | | | | 1.6 |

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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|-------------------------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|----------|--|
| | 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 | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Galactocele | | | | | | | | | | | | | | | | | | | | | | | | 4 1.8 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 4 2.0 | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | | |
| Lip, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Compression | | | | | | | | | | | | | | | | | | | | | | | | 9 2.9 | | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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