

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

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

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

Mesentery + + +
 Fat, Necrosis 2

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

Salivary Glands +

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

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

CARDIOVASCULAR SYSTEM

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

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

C-cell, Hyperplasia

1

1

GENERAL BODY SYSTEM

Peritoneum

+

GENITAL SYSTEM

Epididymis

+ +

Preputial Gland
Inflammation

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

Prostate
Hyperplasia
Hyperplasia, Adenomatous
Inflammation

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

Seminal Vesicle

+ +

Testes
Atrophy
Inflammation, Chronic Active
Interstitial Cell, Hyperplasia

+
 3 3 4 2
 1 2 1 1 1

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node
Congestion

+
 3

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

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 | 078 | 065 | 066 | 077 | 078 | 066 | 067 | 077 | 078 | 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 | 50 |
| ANIMAL ID | 0026 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | |

ALIMENTARY SYSTEM

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

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

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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 I .. Insufficient tissue
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|-----------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|--------|--|
| | 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:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

| 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 | 0 | | |
| 0 mg/l | 7 | 7 | 5 | 7 | 7 | 6 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 0 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 | 6 | | |
| | 2 | 2 | 0 | 2 | 2 | 8 | 7 | 2 | 2 | 5 | 2 | 2 | 2 | 1 | 7 | 2 | 5 | 2 | 1 | 2 | 2 | 8 | 2 | 0 | | |
| | 8 | 6 | 4 | 7 | 8 | 5 | 6 | 6 | 8 | 4 | 7 | 7 | 8 | 6 | 7 | 6 | 8 | 7 | 3 | 6 | 7 | 6 | 3 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 2 | 2 | 2 | 2 | 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 | |
| C-cell, Hyperplasia | | | | | 2 | | | | 1 | | | | 2 | | | | 1 | | | | 6 | 1.3 | | | | |

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|
| Peritoneum | | | | | | | | | | | | | | | | | | | | | | | | | + | 2 |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|-----|-----|-----|-----|-----|
| Epididymis | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Preputial Gland | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | 2 | | | 2 | | | | | 1 | 2 | | | | | 1 | 1 | | | | | 15 | 1.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prostate | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | | |
| Hyperplasia, Adenomatous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3.3 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Interstitial Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.3 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|-----|
| Bone Marrow | | | | | | | | | | | | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 | | |
| Congestion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 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 MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| | 0
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8 | 0
7
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6 | 0
5
0
4 | 0
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7 | 0
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8 | 0
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5 | 0
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6 | 0
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8 | 0
6
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4 | 0
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7 | 0
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8 | 0
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6 | 0
7
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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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3 | 0
7
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6 | 0
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8
3 | 0
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8 | 0
6
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9 | | |
| 0 mg/l | 0
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6 | 0
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8 | 0
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7 | 0
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8 | 0
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9 | 0
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5
0 | |

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

Lymph Node, Mandibular M 0

Lymph Node, Mesenteric Congestion + 50
 1 3.0

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

Thymus + M 49

INTEGUMENTARY SYSTEM

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

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

MUSCULOSKELETAL SYSTEM

Bone + 50

* .. 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

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 beta-Picoline
 CAS Number: 108-99-6

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 Lab: BAT

| 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 | 0026 | 0007 | 0008 | 0007 | 0008 | 0005 | 0006 | 0007 | 0006 | 0008 | 0007 | 0007 | 0008 | 0006 | 0007 | 0006 | 0008 | 0007 | 0007 | 0006 | 0007 | 0006 | 0008 | 50 | |
| ANIMAL ID | 00026 | 00007 | 00008 | 00007 | 00008 | 00005 | 00006 | 00007 | 00006 | 00008 | 00007 | 00007 | 00008 | 00006 | 00007 | 00006 | 00008 | 00007 | 00007 | 00006 | 00007 | 00006 | 00008 | | |

Hyperostosis 1 1 1.0

NERVOUS SYSTEM

Brain + 50
 Compression 2 5 2.6
 Hemorrhage 1 2.0

RESPIRATORY SYSTEM

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

Nose + 50
 Foreign Body 2 1 1 10 1.4
 Inflammation 2 2 1 3 2 1 1 21 2.0
 Necrosis 1 2.0
 Nasolacrimal Duct, Inflammation 2 1 2.0
 Respiratory Epithelium, Degeneration, Cystic 2 1 2.0
 Respiratory Epithelium, Hyperplasia 2 2 2 1 2 2 3 14 1.9
 Respiratory Epithelium, Ulcer 2 2.0

Trachea + 49
 Amyloid Deposition 1 2.0
 Glands, Cyst 1 1 2 1.0

SPECIAL SENSES SYSTEM

Ear + + 2

* .. 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
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TDMS No. 20009 - 03
 Test Type: CHRONIC
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 beta-Picoline
 CAS Number: 108-99-6

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

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--------------------------------------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|--------|
| | 07 | 07 | 05 | 07 | 07 | 06 | 06 | 07 | 07 | 06 | 07 | 07 | 07 | 00 | 06 | 07 | 06 | 07 | 07 | 07 | 06 | 07 | 06 | | | |
| 0 mg/l | 28 | 26 | 04 | 27 | 28 | 85 | 76 | 26 | 28 | 54 | 27 | 27 | 28 | 16 | 77 | 26 | 58 | 27 | 13 | 27 | 26 | 83 | 20 | | | |
| 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 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | | |
| | 20 | 22 | 22 | 22 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 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 | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 1.0 | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cataract | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 1.5 | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 | |
| Sclera, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | + | 1 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Nephropathy | 3 | 3 | 2 | 4 | 3 | 4 | 2 | 2 | 3 | 2 | 4 | 3 | 3 | | 2 | 4 | 2 | 2 | 3 | 3 | 3 | 2 | 4 | 4 | 3 | 48 3.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

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 + .. 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
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 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

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

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

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | ANIMAL ID | 8 | 8 | 8 | 6 | 7 | 6 | 7 | 9 | 8 | 0 | 4 | 7 | 5 | 6 | 6 | 6 | 4 | 8 | 7 | 7 | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum
Infiltration Cellular, Mixed Cell
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | 1 | | | 1 | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver
Basophilic Focus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Clear Cell Focus | | | | | | | X | | | | | | | | | X | X | X | | | | X | X | | X | X | | | | X | X | X | | |
| Degeneration, Cystic | | X | | X | X | X | | | | | | | | X | X | X | | X | | | | | | | | | | | | | | | | |
| Eosinophilic Focus | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatty Change | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| Hepatodiaphragmatic Nodule
Inflammation, Chronic Active | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | X | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |

* .. 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 | 0579 | 0579 | 0579 | 0579 | 0675 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0472 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | |
| 156.25 mg/l | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | | |

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

2
 3

2

Lymph Node, Mandibular

M M

Lymph Node, Mesenteric
 Ectasia

+ +

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

+
 2
 3

Thymus

+ +

INTEGUMENTARY SYSTEM

Mammary Gland
 Galactocele
 Hyperplasia
 Inflammation

+ M
 1
 1
 2

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

+ 3

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
 CAS Number: 108-99-6

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

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
| | 0638 | 0728 | 0778 | 0778 | 0778 | 0778 | 0657 | 0579 | 0579 | 0579 | 0675 | 0757 | 0757 | 0676 | 0777 | 0777 | 0677 | 0777 | 0777 | 0472 | 0772 | 0772 | 0772 | 0772 | 0772 | | |
| 156.25 mg/l | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | | |

Bone Inflammation, Chronic Active + + + + + + + + + + 3 +

NERVOUS SYSTEM

Brain Compression + + + + + + + + + + 2 + + + + + + + + + + 3 + + + + + + + + + +

RESPIRATORY SYSTEM

Lung Alveolar Epithelium, Hyperplasia + + + + + + + + + + 1 + + + + + + + + + + 2 + + + + + + + + + + 1 + + + + + + + + + + 2

Lung Alveolar Epithelium, Metaplasia, Squamous

Nose Foreign Body + + + + + + + + + + 1 + + + + + + + + + + 2 + + + + + + + + + + 1

Nose Inflammation + + + + + + + + + + 3 + + + + + + + + + + 2 + + + + + + + + + + 3

Nose Mineralization + + + + + + + + + + 2 + + + + + + + + + + 1 + + + + + + + + + + 2

Nose Respiratory Epithelium, Hyperplasia + + + + + + + + + + 2 + + + + + + + + + + 1 + + + + + + + + + + 2

Nose Respiratory Epithelium, Metaplasia, Squamous + + + + + + + + + + 1 + + + + + + + + + + 2 + + + + + + + + + + 2

Nose Squamous Epithelium, Hyperplasia

Trachea +

SPECIAL SENSES SYSTEM

Eye Cataract + 2 + + + + + + + + + +

Eye Retina, Degeneration + 1

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

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

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

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

| FISCHER 344 RATS MALE | 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 | | | | | | |
| 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 | 00097 | 00098 | 00099 | 00100 | | | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 2.3 | | |
| Vacuolization Cytoplasmic | 1 | | 1 | 2 | 3 | | | 1 | | | | | | | | | 2 | 2 | 3 | | | | | | | 12 | 1.8 | | |
| Bile Duct, Hyperplasia | 1 | | 3 | 3 | 1 | 3 | 2 | | | | 3 | | 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 | 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 | 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 | 50 | |
| ANIMAL ID | 0076 | 0076 | 0066 | 0077 | 0077 | 0022 | 0077 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1 | |

Follicular Cell, Hyperplasia

1 1.0

GENERAL BODY SYSTEM

Peritoneum

+

1

GENITAL SYSTEM

Epididymis
 Degeneration, Fatty

+ 50
 1 2.0

Preputial Gland
 Cyst
 Hyperplasia, Squamous
 Inflammation

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

Prostate
 Inflammation

+ 50
 2 2 1 2 1 2 1 2 2 2 2 2 2 2 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 1 1 1 1 1 1
 18 1.1

HEMATOPOIETIC SYSTEM

Bone Marrow

+ 50

Lymph Node

+ 11

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

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

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

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

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| | 078 | 076 | 072 | 077 | 077 | 077 | 077 | 056 | 066 | 077 | 066 | 066 | 077 | 066 | 077 | 077 | 077 | 077 | 066 | 077 | 077 | 077 | 066 | 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 | 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 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 | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|---|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------------|
| | 078 | 076 | 077 | 077 | 077 | 077 | 075 | 066 | 067 | 066 | 066 | 067 | 066 | 067 | 066 | 067 | 067 | 067 | 066 | 067 | | 067 |
| ANIMAL ID | 00076 | 00077 | 00077 | 00078 | 00078 | 00078 | 00078 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00088 | 00088 | 00089 | 00089 | 00089 | 00089 | 00089 | 00089 | |
| 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 1.0 |
| Nose Foreign Body | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
20 1.5 |
| Nose Inflammation | | | | | 1 | | | | 2 | 1 | | 2 | 1 | 1 | | | 3 | 2 | | 1 | | 23 2.0 |
| Nose Mineralization | | | | | | | | | | 1 | | | | | | | | | | | | 1 1.0 |
| Nose Respiratory Epithelium, Hyperplasia | | | | | 1 | | | | | 1 | | | | 2 | | | 3 | 2 | | 2 | | 20 1.8 |
| Nose Respiratory Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Nose Squamous Epithelium, Hyperplasia | | | | | | 2 | | | | | | | | | | | | | | | | 1 2.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Eye Cataract | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
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
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 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 MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | 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 | 0010 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | 0011 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon
Parasite Metazoan | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | |
| Intestine Large, Rectum
Parasite Metazoan | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basophilic Focus | X | | | | X | | | | X | X | | | X | X | | X | | | | | | X | | X | |
| Clear Cell Focus | X | X | | | X | | | X | X | | X | | X | X | X | X | | | | | | X | | X | |
| Degeneration, Cystic | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 | |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatty Change | | | | | | | | | | | | | | | 1 | | | | | | | 1 | | 1 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | 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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 1) Minimal 3) Moderate
 2) Mild 4) Marked

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

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

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

| FISCHER 344 RATS MALE
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|-----------|--------------------|
| | 0
7
2
8 | 0
7
2
6 | 0
5
6
9 | 0
3
7
3 | 0
7
2
8 | 0
6
8
1 | 0
7
2
6 | 0
7
2
6 | 0
6
5
7 | 0
7
2
7 | 0
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7 | 0
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7 | 0
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7 | 0
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8 | 0
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3 | 0
6
4
7 | 0
7
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6 | 0
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2
5 | 0
7
2
7 | 0
6
1
5 | 0
7
2
7 | 0
7
2
8 | 0
7
2
6 | | | |
| 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
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 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

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

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

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

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

Ectasia
 Inflammation, Granulomatous

1 1

Spleen
 Inflammation, Granulomatous

+ +

Thymus

+ + + M + + + + + + + + + + + + + + + + + + + M M M

INTEGUMENTARY SYSTEM

Mammary Gland
 Galactocele

+
 3 1 2 2

Skin

+ +

MUSCULOSKELETAL SYSTEM

Bone

+ +

NERVOUS SYSTEM

Brain
 Compression
 Hemorrhage

+
 1 3 3 2 3
 3

RESPIRATORY SYSTEM

Lung
 Alveolar Epithelium, Hyperplasia
 Perivascular, Hemorrhage

+
 1 1 1 1 1 1 1 1

Nose

+ +

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 Lab: BAT

| FISCHER 344 RATS MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|
| | 0
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8 | 0
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| 312.5 mg/l | 0
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9 | 0
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4 | 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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2 | 0
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4 | 0
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5 | 0
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6 | 0
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4
7 | 0
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8 | 0
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9 | 0
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1
4
0 | 50 |
| ANIMAL ID | 0
1
2
6 | 0
1
2
7 | 0
1
2
8 | 0
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2
9 | 0
1
3
0 | 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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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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5 | 0
1
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6 | 0
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7 | 0
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8 | 0
1
4
9 | 0
1
4
0 | 50 |

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 | | | | 50 | 17 | 1.1 | |

HEMATOPOIETIC SYSTEM

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

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312.5 mg/l | 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 | | |
| ANIMAL ID | 001267 | 001268 | 001269 | 001270 | 001271 | 001272 | 001273 | 001274 | 001275 | 001276 | 001277 | 001278 | 001279 | 001280 | 001281 | 001282 | 001283 | 001284 | 001285 | 001286 | 001287 | 001288 | 001289 | 001290 | | |
| Ectasia
Inflammation, Granulomatous | | | | | | | | | | | | | | | | | | | | | | | | | 2 1.0
1 1.0 | |
| Spleen
Inflammation, Granulomatous | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
3 1 3.0 | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | 45 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Galactoceles | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
2 1 1 2 1 9 1.7 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain
Compression
Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 1 2 3 8 2.3
1 2 2.0 | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung
Alveolar Epithelium, Hyperplasia
Perivascular, Hemorrhage | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50
1 1 1 1 12 1.0
2 1 2.0 | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

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|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| | 0726 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | |
| ANIMAL ID | 001267 | 001268 | 001269 | 001270 | 001271 | 001272 | 001273 | 001274 | 001275 | 001276 | 001277 | 001278 | 001279 | 001280 | 001281 | 001282 | 001283 | 001284 | 001285 | 001286 | 001287 | 001288 | 001289 | 001290 | |
| Foreign Body | 2 | 3 | | | | | | | | | | | | | 1 | 2 | 1 | | | | | | | | |
| Inflammation | 2 | 3 | | | | | | | 1 | 2 | | | | | | | 2 | 2 | | | | | | | |
| Nasolacrimal Duct, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nasolacrimal Duct, Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nasolacrimal Duct, Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Olfactory Epithelium, Metaplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Epithelium, Hyperplasia | 2 | 2 | | | | | | | | | | 2 | | | 1 | 2 | 2 | | | | | | | | |
| Squamous Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cataract | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Cornea, Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 2 1.5 | |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | | | 2 | | | | | | | | | | 2 1.5 | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Infarct, Acute | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Nephropathy | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 3 | 2 | 3 | 2 | 3 | 3 | 4 | 2 | 2 | 3 | 4 | 4 | 2 | 4 | 3 | 3 | 4 3 | |
| Pelvis, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 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
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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 | | | | | | | | | | | | | | | | | | | | | | | | | 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
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | | | |
|---|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--------|--------|--------|--------|--------|--------|---------------|---------------|
| | 0726 | 0727 | 0728 | 0621 | 0623 | 0629 | 0631 | 0607 | 0608 | 0611 | 0617 | 0618 | 0622 | 0623 | 0627 | 0628 | 0634 | 0635 | 0637 | 0643 | | 0645 | 0651 | 0652 | 0656 | 0659 | 0666 | 0669 | |
| ANIMAL ID | 001766 | 001767 | 001768 | 001769 | 001770 | 001771 | 001772 | 001773 | 001774 | 001775 | 001776 | 001777 | 001778 | 001779 | 001780 | 001781 | 001782 | 001783 | 001784 | 001785 | 001786 | 001787 | 001788 | 001789 | 001790 | 001791 | 001792 | | |
| 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 | 2 | 2 | 2 | 42 2.0 |
| Pancreas Hyperplasia Lipomatosis Acinus, Atrophy | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | A | + | + | 48 | |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Stomach, Forestomach Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Stomach, Glandular Inflammation, Chronic Active Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| 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 | 3 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 49 2.6 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 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 | 0632 | 0633 | 0634 | 0635 | 0636 | 0637 | 0638 | 0639 | 0640 | 0641 | 0642 | 0643 | 0644 | | 0645 | 0646 | 0649 |
| ANIMAL ID | 00176 | 00177 | 00178 | 00180 | 00181 | 00182 | 00183 | 00184 | 00185 | 00186 | 00187 | 00188 | 00189 | 00190 | 00191 | 00192 | 00193 | 00194 | 00195 | 00196 | 00197 | 00198 | 00199 | |

Epicardium, Inflammation, Chronic Active

1

1 1.0

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|-----|
| Peritoneum | | | | | | | | | | | | | | | | | | | | | | | | 2 | |
| Inflammation, Chronic Active | | | | | | | | | | 1 | | | | | | | | | | | | | | 1 | 1.0 |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 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 | 0726 | 0727 | 0668 | 0661 | 0499 | 0661 | 0668 | 0777 | 0667 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0667 | 0775 | 0776 | | 0554 | 0666 | 0666 |
| 625 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | |
| | 001766 | 001767 | 001768 | 001769 | 001770 | 001771 | 001772 | 001773 | 001774 | 001775 | 001776 | 001777 | 001778 | 001779 | 001780 | 001781 | 001782 | 001783 | 001784 | 001785 | 001786 | 001787 | 001788 | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Capsule, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Galactocele | | | | | | | | | | | | | 2 | 1 | | | | | | | | | | 12 1.4 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 5 1.4 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperostosis | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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
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 2) Mild 4) Marked

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

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

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

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

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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

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

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

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

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
 + .. 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...) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 0712 | 0714 | 0715 | 0716 | 0717 | 0718 | 0719 | 0720 | 0721 | 0722 | 0723 | 0724 | 0725 | 0726 | 0727 | 0728 | 0729 | 0730 | 0731 | 0732 | 0733 | 0734 | 0735 | 0736 | 0737 | | | 0738 | 0739 | 0740 | 0741 | 0742 | 0743 | 0744 | 0745 | 0746 | 0747 | 0748 | 0749 | 0750 | 0751 | 0752 | 0753 | 0754 | 0755 | 0756 | 0757 | 0758 | 0759 | 0760 | 0761 | 0762 | 0763 | 0764 | 0765 | 0766 | 0767 | 0768 | 0769 | 0770 | 0771 | 0772 | 0773 | 0774 | 0775 | 0776 | 0777 | 0778 | 0779 | 0780 | 0781 | 0782 | 0783 | 0784 | 0785 | 0786 | 0787 | 0788 | 0789 | 0790 | 0791 | 0792 | 0793 | 0794 | 0795 | 0796 | 0797 | 0798 | 0799 | 0800 | 0801 | 0802 | 0803 | 0804 | 0805 | 0806 | 0807 | 0808 | 0809 | 0810 | 0811 | 0812 | 0813 | 0814 | 0815 | 0816 | 0817 | 0818 | 0819 | 0820 | 0821 | 0822 | 0823 | 0824 | 0825 | 0826 | 0827 | 0828 | 0829 | 0830 | 0831 | 0832 | 0833 | 0834 | 0835 | 0836 | 0837 | 0838 | 0839 | 0840 | 0841 | 0842 | 0843 | 0844 | 0845 | 0846 | 0847 | 0848 | 0849 | 0850 | 0851 | 0852 | 0853 | 0854 | 0855 | 0856 | 0857 | 0858 | 0859 | 0860 | 0861 | 0862 | 0863 | 0864 | 0865 | 0866 | 0867 | 0868 | 0869 | 0870 | 0871 | 0872 | 0873 | 0874 | 0875 | 0876 | 0877 | 0878 | 0879 | 0880 | 0881 | 0882 | 0883 | 0884 | 0885 | 0886 | 0887 | 0888 | 0889 | 0890 | 0891 | 0892 | 0893 | 0894 | 0895 | 0896 | 0897 | 0898 | 0899 | 0900 | 0901 | 0902 | 0903 | 0904 | 0905 | 0906 | 0907 | 0908 | 0909 | 0910 | 0911 | 0912 | 0913 | 0914 | 0915 | 0916 | 0917 | 0918 | 0919 | 0920 | 0921 | 0922 | 0923 | 0924 | 0925 | 0926 | 0927 | 0928 | 0929 | 0930 | 0931 | 0932 | 0933 | 0934 | 0935 | 0936 | 0937 | 0938 | 0939 | 0940 | 0941 | 0942 | 0943 | 0944 | 0945 | 0946 | 0947 | 0948 | 0949 | 0950 | 0951 | 0952 | 0953 | 0954 | 0955 | 0956 | 0957 | 0958 | 0959 | 0960 | 0961 | 0962 | 0963 | 0964 | 0965 | 0966 | 0967 | 0968 | 0969 | 0970 | 0971 | 0972 | 0973 | 0974 | 0975 | 0976 | 0977 | 0978 | 0979 | 0980 | 0981 | 0982 | 0983 | 0984 | 0985 | 0986 | 0987 | 0988 | 0989 | 0990 | 0991 | 0992 | 0993 | 0994 | 0995 | 0996 | 0997 | 0998 | 0999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309 | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1350 | 1351 | 1352 | 1353 | 1354 | 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368 | 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 | 1377 | 1378 | 1379 | 1380 | 1381 | 1382 | 1383 | 1384 | 1385 | 1386 | 1387 | 1388 | 1389 | 1390 | 1391 | 1392 | 1393 | 1394 | 1395 | 1396 | 1397 | 1398 | 1399 | 1400 | 1401 | 1402 | 1403 | 1404 | 1405 | 1406 | 1407 | 1408 | 1409 | 1410 | 1411 | 1412 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 | 1419 | 1420 | 1421 | 1422 | 1423 | 1424 | 1425 | 1426 | 1427 | 1428 | 1429 | 1430 | 1431 | 1432 | 1433 | 1434 | 1435 | 1436 | 1437 | 1438 | 1439 | 1440 | 1441 | 1442 | 1443 | 1444 | 1445 | 1446 | 1447 | 1448 | 1449 | 1450 | 1451 | 1452 | 1453 | 1454 | 1455 | 1456 | 1457 | 1458 | 1459 | 1460 | 1461 | 1462 | 1463 | 1464 | 1465 | 1466 | 1467 | 1468 | 1469 | 1470 | 1471 | 1472 | 1473 | 1474 | 1475 | 1476 | 1477 | 1478 | 1479 | 1480 | 1481 | 1482 | 1483 | 1484 | 1485 | 1486 | 1487 | 1488 | 1489 | 1490 | 1491 | 1492 | 1493 | 1494 | 1495 | 1496 | 1497 | 1498 | 1499 | 1500 | 1501 | 1502 | 1503 | 1504 | 1505 | 1506 | 1507 | 1508 | 1509 | 1510 | 1511 | 1512 | 1513 | 1514 | 1515 | 1516 | 1517 | 1518 | 1519 | 1520 | 1521 | 1522 | 1523 | 1524 | 1525 | 1526 | 1527 | 1528 | 1529 | 1530 | 1531 | 1532 | 1533 | 1534 | 1535 | 1536 | 1537 | 1538 | 1539 | 1540 | 1541 | 1542 | 1543 | 1544 | 1545 | 1546 | 1547 | 1548 | 1549 | 1550 | 1551 | 1552 | 1553 | 1554 | 1555 | 1556 | 1557 | 1558 | 1559 | 1560 | 1561 | 1562 | 1563 | 1564 | 1565 | 1566 | 1567 | 1568 | 1569 | 1570 | 1571 | 1572 | 1573 | 1574 | 1575 | 1576 | 1577 | 1578 | 1579 | 1580 | 1581 | 1582 | 1583 | 1584 | 1585 | 1586 | 1587 | 1588 | 1589 | 1590 | 1591 | 1592 | 1593 | 1594 | 1595 | 1596 | 1597 | 1598 | 1599 | 1600 | 1601 | 1602 | 1603 | 1604 | 1605 | 1606 | 1607 | 1608 | 1609 | 1610 | 1611 | 1612 | 1613 | 1614 | 1615 | 1616 | 1617 | 1618 | 1619 | 1620 | 1621 | 1622 | 1623 | 1624 | 1625 | 1626 | 1627 | 1628 | 1629 | 1630 | 1631 | 1632 | 1633 | 1634 | 1635 | 1636 | 1637 | 1638 | 1639 | 1640 | 1641 | 1642 | 1643 | 1644 | 1645 | 1646 | 1647 | 1648 | 1649 | 1650 | 1651 | 1652 | 1653 | 1654 | 1655 | 1656 | 1657 | 1658 | 1659 | 1660 | 1661 | 1662 | 1663 | 1664 | 1665 | 1666 | 1667 | 1668 | 1669 | 1670 | 1671 | 1672 | 1673 | 1674 | 1675 | 1676 | 1677 | 1678 | 1679 | 1680 | 1681 | 1682 | 1683 | 1684 | 1685 | 1686 | 1687 | 1688 | 1689 | 1690 | 1691 | 1692 | 1693 | 1694 | 1695 | 1696 | 1697 | 1698 | 1699 | 1700 | 1701 | 1702 | 1703 | 1704 | 1705 | 1706 | 1707 | 1708 | 1709 | 1710 | 1711 | 1712 | 1713 | 1714 | 1715 | 1716 | 1717 | 1718 | 1719 | 1720 | 1721 | 1722 | 1723 | 1724 | 1725 | 1726 | 1727 | 1728 | 1729 | 1730 | 1731 | 1732 | 1733 | 1734 | 1735 | 1736 | 1737 | 1738 | 1739 | 1740 | 1741 | 1742 | 1743 | 1744 | 1745 | 1746 | 1747 | 1748 | 1749 | 1750 | 1751 | 1752 | 1753 | 1754 | 1755 | 1756 | 1757 | 1758 | 1759 | 1760 | 1761 | 1762 | 1763 | 1764 | 1765 | 1766 | 1767 | 1768 | 1769 | 1770 | 1771 | 1772 | 1773 | 1774 | 1775 | 1776 | 1777 | 1778 | 1779 | 1780 | 1781 | 1782 | 1783 | 1784 | 1785 | 1786 | 1787 | 1788 | 1789 | 1790 | 1791 | 1792 | 1793 | 1794 | 1795 | 1796 | 1797 | 1798 | 1799 | 1800 | 1801 | 1802 | 1803 | 1804 | 1805 | 1806 | 1807 | 1808 | 1809 | 1810 | 1811 | 1812 | 1813 | 1814 | 1815 | 1816 | 1817 | 1818 | 1819 | 1820 | 1821 | 1822 | 1823 | 1824 | 1825 | 1826 | 1827 | 1828 | 1829 | 1830 | 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 | 1846 | 1847 | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 | 1861 | 1862 | 1863 | 1864 | 1865 | 1866 | 1867 | 1868 | 1869 | 1870 | 1871 | 1872 | 1873 | 1874 | 1875 | 1876 | 1877 | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 | 1886 | 1887 | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 |

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 | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
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| ANIMAL ID | 0
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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...) |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
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GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

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

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

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
 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 |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|----------|
| | 079 | 070 | 072 | 073 | 075 | 076 | 077 | 077 | 077 | 077 | 076 | 077 | 077 | 077 | 066 | 077 | 066 | 066 | 066 | 077 | 077 | 077 | 066 | 077 | |
| 0 mg/l | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | | |
| 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 | | |
| | 67 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |

ALIMENTARY SYSTEM

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

* .. 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 | 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 | |
| | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 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 2.0 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | 2 | | 4 2.0 |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | 2 | | 7 2.0 |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Ulcer | | | | | | | | | | | | | | 2 | | | | | | | | | | | 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
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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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 Lab: BAT

| 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 | 0019 | 0029 | 0031 | 0059 | 0061 | 0072 | 0072 | 0072 | 0078 | 0088 | 0088 | 0011 | 0077 | 0066 | 0066 | 0066 | 0077 | 0077 | 0077 | 0066 | 0077 | 0072 | 50 | |
| | 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 | 2233 | 2233 | 2233 | 2233 | 2233 | 2233 | 2233 | 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
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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 Lab: BAT

| 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 | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 002226 | 000222 | 000222 | 000222 | 000233 | 000233 | 000233 | 000233 | 000233 | 000234 | 000235 | 000236 | 000237 | 000238 | 000239 | 000240 | 000241 | 000242 | 000243 | 000244 | 000245 | 000246 | 000247 | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Spleen
Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 4 | 3.8 |
| Thymus
Cyst
Hyperplasia, Lymphoid | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | 1 | 2.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland
Galactoceles
Hyperplasia
Inflammation | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 12 | 1.8 |
| | | | | 1 | | | | | | 2 | | 1 | | | | | | | 1 | 1 | | | 1 | | 4 | 1.3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Skin
Fibrosis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 1.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone
Hyperostosis
Inflammation, Chronic Active | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 1 | 3.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain
Compression | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 13 | 2.3 |
| | | 4 | | 1 | | | | 2 | | | | | 3 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.3 |

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| | 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 | 0011 | 0088 | 0077 | 0099 | 0088 | 0001 | 0009 | 0007 | 0006 | 0006 | 0006 | 0007 | 0007 | 0007 | 0008 | 0009 | 0003 | 0007 | 50 | |
| ANIMAL ID | 0022 | 0022 | 0022 | 0022 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | | |

RESPIRATORY SYSTEM

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

SPECIAL SENSES SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----------|
| | 079 | 070 | 072 | 073 | 075 | 076 | 077 | 077 | 077 | 077 | 076 | 077 | 077 | 076 | 076 | 076 | 077 | 077 | 077 | 077 | 076 | 077 | 077 | | |
| 0 mg/l | 0029 | 0001 | 0009 | 0001 | 0009 | 0001 | 0008 | 0007 | 0008 | 0008 | 0008 | 0001 | 0009 | 0007 | 0001 | 0002 | 0005 | 0009 | 0008 | 0008 | 0009 | 0003 | 0008 | 49 | |
| ANIMAL ID | 0022 | 0022 | 0022 | 0022 | 0023 | 0023 | 0023 | 0023 | 0023 | 0023 | 0023 | 0023 | 0023 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 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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(cont...) |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| | 0
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6 | 0
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1 | 0
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9 | 0
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9 | 0
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| 156.25 mg/l | 0
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8 | 0
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9 | 0
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5 | |

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|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Inflammation | | | | | | | | | 1 | | | | | | | | | | 4 | | 4 | | | | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cervix, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Vagina | + | | | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

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

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

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

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

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

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

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | 1 | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | |

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

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|----------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|--|
| | 0526 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | |
| 156.25 mg/l | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Hyperplasia | | 4 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | 4 2.3 | |
| Inflammation | | | | | | | | | | | | | | | | | | | | | | | | | | 5 2.8 | |
| Duct, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 3 2.0 | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | | | 1 4.0 | |
| Cervix, Cyst | | | | | | | | | | | | | | | | | | | | | | | | | | 2 3.0 | |
| Endometrium, Hyperplasia, Cystic | 1 | | | | 1 | | 1 | | | | 1 | | 1 | | | | | | | | | | | | | 8 1.1 | |
| Vagina | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | |
| Deep Cervical, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| Mediastinal, Ectasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| Mediastinal, Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | M | 0 | |

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

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

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

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

| DAY ON TEST | FISCHER 344 RATS FEMALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | | |
|-------------------------------|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|-------|--|--|
| | 0526 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | | 0772 | 0772 | 0772 | | | |
| ANIMAL ID | 0076 | 0077 | 0078 | 0079 | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | 0089 | 0090 | 0091 | 0092 | 0093 | 0094 | 0095 | 0096 | 0097 | 0098 | 0099 | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia, Lymphoid | | | | 3 | | | | | | | | | | | | | | | | | | | | | 2 2.0 | | |
| Necrosis | | | | | | | | | | | | | | | | | | | 2 | | | | | | 1 2.0 | | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Galactocele | 2 | | | | 2 | | | | | | | | 2 | 1 | | | | | | | | | 2 | | 8 1.9 | | |
| Hyperplasia | 3 | | | | | | | | | | | | | 1 | | | | | | | | | | | 4 1.5 | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | + | 1 | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Compression | 2 | | | | | | | | | | | | | | | 1 | | | | | | | 2 | | 7 1.7 | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | | | | | 2 2.5 | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | | |

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

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

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * 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 | |
| | 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 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | 277 | |
| | 678 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | 779 | |

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 | | | | | | 2 | | 3 | 2 | | | | | | 13 2.2 |
| Anterior Chamber, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Cornea, Hyperplasia | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 1.0 |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | | | | | 2 3.5 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | 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
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 A .. Autolysis precludes evaluation
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

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

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

| FISCHER 344 RATS 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 | 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 | 278 | | |
| | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | | |
| | 277 | 277 | 277 | 277 | 278 | 278 | 278 | 278 | 278 | 278 | 278 | 278 | 278 | 278 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | | |
| | 678 | 677 | 678 | 679 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | | |
| 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
312.5 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|---------------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0691 | 0729 | 0679 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0772 | 0674 | 0772 | 0676 | 0772 | 0772 | 0522 | 0772 | 0672 | 0772 | 0672 | 0772 | 0572 | 0772 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0030 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0033 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0034 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0035 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0036 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0037 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0038 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0039 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0040 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0041 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0042 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0043 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0044 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0045 | |

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 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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 | | | | |
| 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 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0691 | 0729 | 0690 | 0729 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0676 | 0776 | 0676 | 0776 | 0776 | 0575 | 0777 | 0777 | 0676 | 0776 | 0776 | 0776 | 0776 | 0575 | | |
| 312.5 mg/l | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 6 | |

Inflammation, Chronic Active

CARDIOVASCULAR SYSTEM

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

ENDOCRINE SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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

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

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

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0728 | 0728 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | 0666 | |
| 312.5 mg/l | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 0026 | 50 |
| ANIMAL ID | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 00326 | 47 |
| | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 00226 | 50 |
| | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 0067 | 50 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----------------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | + | + | + | 47 | |
| Intestine Large, Colon
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | 2 1.0 |
| Intestine Large, Rectum
Inflammation, Chronic Active
Parasite Metazoan | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

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

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

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

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

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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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

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

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

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|----------|
| | 078 | 077 | 066 | 076 | 077 | 057 | 077 | 076 | 066 | 066 | 077 | 077 | 057 | 077 | 066 | 077 | 077 | 066 | 077 | 077 | 077 | 077 | 077 | | |
| 312.5 mg/l | 0026 | 0032 | 0022 | 0033 | 0033 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | 0003 | | |
| | 678 | 777 | 666 | 999 | 777 | 999 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | | |

Inflammation, Chronic Active

2

1 2.0

CARDIOVASCULAR SYSTEM

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

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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

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

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

| FISCHER 344 RATS FEMALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | |
|-------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | | |
| 312.5 mg/l | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 6 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 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 |
| | 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 |

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 | 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 | |
| Galactocoele | | | | | | | | | | | | | | | | 1 | | | | | | | 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 | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|-------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|----------------------|
| | 0728 | 0728 | 0666 | 0557 | 0557 | 0767 | 0676 | 0777 | 0777 | 0777 | 0777 | 0777 | 0575 | 0666 | 0777 | 0777 | 0575 | 0777 | 0666 | 0777 | 0666 | 0777 | 0557 | 0767 | 0767 | | |
| 625 mg/l | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | 00351 | |

ALIMENTARY SYSTEM

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

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

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

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

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

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

Hemorrhage 3

RESPIRATORY SYSTEM

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

SPECIAL SENSES SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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

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

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

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

URINARY SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

beta-Picoline
 CAS Number: 108-99-6

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

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|-------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|------|
| | 0728 | 0678 | 0759 | 0778 | 0570 | 0751 | 0772 | 0759 | 0674 | 0769 | 0763 | 0772 | 0772 | 0722 | 0722 | 0692 | 0729 | 0729 | 0747 | 0722 | | 0638 | 0728 | 0772 | 0772 | 0728 |
| ANIMAL ID | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | 00400 | |
| Serosa, Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Vein, Dilatation | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gingival, Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aorta, Mineralization | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

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

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

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

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | | | | | |
|-------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|----|--|
| | 078 | 067 | 075 | 077 | 057 | 075 | 077 | 052 | 082 | 089 | 064 | 076 | 077 | 077 | 077 | 066 | 077 | 047 | 072 | 063 | | 077 | 077 | 077 | | |
| ANIMAL ID | 00376 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cardiomyopathy | 3 | 2 | 3 | 3 | 2 | 4 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 3 | 3 | 49 | |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Hyperplasia | | | 1 | 1 | 2 | 2 | | | | | | | 2 | 1 | | | | | | 3 | 1 | 1 | 1 | 22 | | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | 1 | | | | | | | | 1 | | | | 1 | 3 | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Pars Distalis, Hyperplasia | 2 | | | 2 | 2 | | | 2 | | | 1 | 2 | 2 | 2 | 2 | | 2 | | | | | | 3 | 20 | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Mineralization | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| C-cell, Hyperplasia | | | | | | | | | | | | | | | | 1 | | 3 | | | | | | 7 | | |

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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

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

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

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

| FISCHER 344 RATS FEMALE
625 mg/l | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|-------------------------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|----------|
| | 078 | 067 | 075 | 077 | 057 | 075 | 077 | 067 | 076 | 077 | 077 | 077 | 077 | 067 | 072 | 077 | 074 | 077 | 067 | 077 | 077 | 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 | | |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | | | | 2 3.0 | |
| Necrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Thymus | + | + | + | + | + | + | + | M | + | M | + | + | + | + | + | + | + | + | + | + | + | + | 47 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | | | 1 2.0 | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 3.0 | |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Galactocele | | | | 2 | | | | | | | | | | | | | | | 2 | | | | | 4 1.8 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | | | 4 2.0 | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Ulcer | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 2.0 | |
| Lip, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 1.0 | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | | 3 | | 1 3.0 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Compression | | | | | | | | | 3 | | | | | | | | | | 3 | | | 4 | 1 | 9 2.9 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically
 1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
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TDMS No. 20009 - 03
 Test Type: CHRONIC
 Route: DOSED WATER
 Species/Strain: RATS/F 344/N

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

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

| DAY ON TEST | FISCHER 344 RATS FEMALE | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|-------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----|-----|
| | 078 | 067 | 075 | 077 | 057 | 075 | 077 | 057 | 075 | 077 | 067 | 075 | 077 | 067 | 075 | 077 | 067 | 075 | 077 | 067 | | 075 | |
| 625 mg/l | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 1 | 3.0 |

Hemorrhage

1 3.0

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Fibrosis | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | 2.0 | |
| Thrombosis | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Alveolar Epithelium, Hyperplasia | | | | | | | | | | | | 1 | | | | | 1 | | | | 1 | 1 | 1 | 11 | 1.2 |
| Alveolar Epithelium, Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Serosa, Fibrosis | | | | | | | | | | 2 | | | | | | | | 1 | | | | | | 2 | 1.5 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1.5 |
| Inflammation | | | | 1 | | | | | | | | | | | | | | | | | | | | 3 | 1.7 |
| Respiratory Epithelium, Hyperplasia | | | | 1 | | | | | | | | | | | | | | | | | | | | 2 | 1.5 |
| Turbinates, Cyst | | | | | | | | | | | | | | 3 | | | | | | | | | | 2 | 2.5 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|-----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Cataract | | | 2 | | | 2 | | | | | | | 1 | 4 | | | | | 2 | | | | | 10 | 2.1 |
| Anterior Chamber, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Retina, Degeneration | | | | | | | | | | | | | | 3 | | | | | | | | | | 3 | 2.7 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1.0 |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | 1 | |

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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 I .. Insufficient tissue
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1-4 .. Lesion qualified as:
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