

TDMS No. 20302 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W.

F1_M3

Date Report Reqstd: 11/17/2006

Time Report Reqstd: 07:28:41

First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

C Number: C20302

Lock Date: 12/07/2005

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

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	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
.....										
B6C3F1 MICE MALE	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	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	2	3	4	5	6	7	8	9	0
	* TOTALS									

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	M	+	+	+	9
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10

* ... 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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	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
B6C3F1 MICE MALE		9	9	9	9	9	9	9	9	9	9
control	ANIMAL ID	5	5	5	5	5	5	5	5	5	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	1
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									
Stomach, Glandular		+	+	+	+	+	+	+	+	+	+
											10

CARDIOVASCULAR SYSTEM

Heart	+	+	+	+	+	+	+	+	+	+	+	10
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ENDOCRINE SYSTEM

Adrenal Cortex Hypertrophy	+	+	+	+	+	+	+	+	+	+	+	10
				2			2					2 2.0
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	M	+	+	M	M	+	M	M	M		3
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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Lab: BNW

B6C3F1 MICE MALE control	ANIMAL ID	DAY ON TEST										* TOTALS
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		5	5	5	5	5	5	5	5	5	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	1	
		1	2	3	4	5	6	7	8	9	0	

Epididymis	+	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	M	M	+	+	+	+	+	+	+	+	8
Lymph Node, Mandibular	+	+	+	+	M	M	+	M	+	M		6
Lymph Node, Mediastinal	M	+	+	M	+	M	M	M	M	+		4
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	+	10

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	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE	0	0	0	0	0	0	0	0	0	0
control	0	0	0	0	0	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	2	3	4	5	6	7	8	9	0

* TOTALS

INTEGUMENTARY SYSTEM

Mammary Gland	M M M M M M M M M M	0
Skin	+ + + + + + + + + +	10

MUSCULOSKELETAL SYSTEM

Bone	+ + + + + + + + + +	10
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NERVOUS SYSTEM

Brain	+ + + + + + + + + +	10
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RESPIRATORY SYSTEM

Larynx	+ + + + + + + + + +	10
Lung	+ + + + + + + + + +	10
Nose	+ + + + + + + + + +	10
Trachea	+ + + + + + + + + +	10

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	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE	0	0	0	0	0	0	0	0	0	0
control	0	0	0	0	0	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	2	3	4	5	6	7	8	9	0

* TOTALS

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
<hr/>										
B6C3F1 MICE MALE	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
25 ppm	2	2	2	2	2	2	2	2	2	2
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*** TOTALS****ALIMENTARY SYSTEM**

Liver	+	+	+	+	+	+	+	+	+	+	10
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CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Spleen	+	+	+	3
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INTEGUMENTARY SYSTEM

NONE

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE 25 ppm	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
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*** TOTALS****MUSCULOSKELETAL SYSTEM**

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE 50 ppm	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	4	4	4	4	4	4	4	4	4	4
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0
* TOTALS										

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE 50 ppm	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	4	4	4	4	4	4	4	4	4	4
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+
Dilatation						1				
Nephropathy						1				

10	1	1.0
1	1	1.0

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

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	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE 100 ppm	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	6	6	6	6	6
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

* TOTALS

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas Duct, Cyst						+					1
						3					1 3.0

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

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	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE 100 ppm	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	6	6	6	6	6
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

* TOTALS

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+
Dilatation					1					
Nephropathy						1				

10	1	1.0
1	1	1.0

Urinary Bladder	+	+	+	+	+	+	+	+	+	+
Transitional Epithelium, Hyperplasia	1				1	1	1	1	1	

10	7	1.0
----	---	-----

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE 200 ppm	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	8	8	8	8	8	8	8	8	8	8
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0
	* TOTALS									

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W.

Date Report Reqstd: 11/17/2006

Time Report Reqstd: 07:28:41

First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
B6C3F1 MICE MALE 200 ppm	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	8	8	8	8	8	8	8	8	8	8
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
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Urinary Bladder Transitional Epithelium, Hyperplasia	+	+	+	+	+	+	+	+	+	+	10
	2	2	2	2	2	2	2	2	2	2	10 2.0

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

+ .. Tissue examined microscopically

x .. Lesion present

l .. 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. 20302 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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B6C3F1 MICE MALE 400 ppm	ANIMAL ID	DAY ON TEST										* TOTALS
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		5	5	5	5	5	5	5	5	5	5	
		0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0	

ALIMENTARY SYSTEM

Esophagus	+ + + + + + + + + +	10
Gallbladder Infiltration Cellular, Polymorphonuclear	+ + M + + + M M + + 2	7 1 2.0
Intestine Large, Cecum	+ + + + + + + + + +	10
Intestine Large, Colon	+ + + + + + + + + +	10
Intestine Large, Rectum	+ + + + + + + + + +	10
Intestine Small, Duodenum	+ + + + + + + + + +	10
Intestine Small, Ileum	+ + + + + + + + + +	10
Intestine Small, Jejunum	+ + + + + + + + + +	10
Liver	+ + + + + + + + + +	10
Pancreas	+ + + + + + + + + +	10
Salivary Glands	+ + + + + + + + + +	10
Stomach, Forestomach	+ + + + + + + + + +	10

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Lab: BNW

	DAY ON TEST	0 9 5								
B6C3F1 MICE MALE	ANIMAL ID	0 1 0 0 1 2	0 1 0 0 1 3	0 1 0 0 1 4	0 1 0 0 1 5	0 1 0 0 1 6	0 1 0 0 1 7	0 1 0 0 1 8	0 1 0 0 1 9	0 1 0 0 1 0
400 ppm										

* TOTALS

Stomach, Glandular

+ + + + + + + + + +

10

CARDIOVASCULAR SYSTEM

Heart

+ + + + + + + + + +

10

ENDOCRINE SYSTEM

Adrenal Cortex

+ + + + + + + + + +

10

Adrenal Medulla

+ + + + + + + + + +

10

Islets, Pancreatic

+ + + + + + + + + +

10

Parathyroid Gland

+ M + + + M M M M +

5

Pituitary Gland

+ + + + + + + + + +

10

Thyroid Gland

+ + + + + + + + + +

10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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	DAY ON TEST	0	0	0	0	0	0	0	0	0
B6C3F1 MICE MALE	ANIMAL ID	9	9	9	9	9	9	9	9	9
400 ppm		5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9

* TOTALS

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	M	+	+	+	M	+	+	+	+	8
Lymph Node, Mandibular	+	M	+	M	+	M	M	M	+	M	4
Lymph Node, Mediastinal	M	M	M	M	M	M	M	+	M	+	2
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10

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Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	5	5	5	5	5	5	5	5	5	5	
B6C3F1 MICE MALE 400 ppm	0	0	0	0	0	0	0	0	0	* TOTALS	
	1	1	1	1	1	1	1	1	1		
	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	1		
	1	2	3	4	5	6	7	8	9		

INTEGUMENTARY SYSTEM

Mammary Gland	M M M M M M M M M M	0
Skin	+ + + + + + + + + +	10

MUSCULOSKELETAL SYSTEM

Bone	+ + + + + + + + + +	10
------	---------------------	----

NERVOUS SYSTEM

Brain	+ + + + + + + + + +	10
-------	---------------------	----

RESPIRATORY SYSTEM

Larynx	+ + + + + + + + + +	10
Lung	+ + + + + + + + + +	10
Nose	+ + + + + + + + + +	10
Trachea	+ + + + + + + + + +	10

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		0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5
<hr/>										
B6C3F1 MICE MALE		0	0	0	0	0	0	0	0	0
400 ppm	ANIMAL ID	1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9
		* TOTALS								

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	10
<hr/>											
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
Nephropathy				1							1 1.0
<hr/>											
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10
Transitional Epithelium, Hyperplasia	3	2	3	3	2	3	2	2	3	2	10 2.5

*** END OF MALE DATA ***

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

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B6C3F1 MICE FEMALE control	ANIMAL ID	DAY ON TEST										* TOTALS
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		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	
		1	1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE	0	0	0	0	0	0	0	0	0	0
control	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0
	* TOTALS									
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+

CARDIOVASCULAR SYSTEM

Heart	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	M	+	+	+	+	+	M	M	7
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE	0	0	0	0	0	0	0	0	0	0
control	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

* TOTALS

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	M	+	M	+	+	+	+	M	M	+	6
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	M	M	+	M	+	M	+	M	+		5
Lymph Node, Mesenteric	+	+	+	M	+	+	+	+	+	+	9
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10

INTEGUMENTARY SYSTEM

Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
---------------	---	---	---	---	---	---	---	---	---	---	----

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	0	0	0	0	0	0	0	0	0	0
DAY ON TEST	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
control	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0
	* TOTALS									
Skin	+	+	+	+	+	+	+	+	+	+
MUSCULOSKELETAL SYSTEM										
Bone	+	+	+	+	+	+	+	+	+	+
NERVOUS SYSTEM										
Brain	+	+	+	+	+	+	+	+	+	+
RESPIRATORY SYSTEM										
Larynx	+	+	+	+	+	+	+	+	+	+
Lung	+	+	+	+	+	+	+	+	+	+
Nose	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+
SPECIAL SENSES SYSTEM										
Eye	+	+	+	+	+	+	+	+	+	+
Harderian Gland	+	+	+	+	+	+	+	+	+	+

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE	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
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*** TOTALS****URINARY SYSTEM**

Kidney Nephropathy	+	+	+	+	+	+	+	+	+	+	10
						1	1				2 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE 25 ppm	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
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0
	* TOTALS									

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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| .. 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. 20302 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W.

Date Report Reqstd: 11/17/2006

Time Report Reqstd: 07:28:41

First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6

B6C3F1 MICE FEMALE

25 ppm

ANIMAL ID	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
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
.....											
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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

+ .. Tissue examined microscopically

x .. Lesion present

| .. Insufficient tissue

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TDMS No. 20302 - 04

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Species/Strain: MICE/B6C3F1

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First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE 50 ppm	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	5
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0
* TOTALS										

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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

+ .. Tissue examined microscopically

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Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE	0	0	0	0	0	0	0	0	0	0
50 ppm	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	5	5	5	5	5	5	5	5	5	5
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*** TOTALS**

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEMKidney
Nephropathy+ + + + + + + + + +
1 10 1 1.0

Urinary Bladder

+ + + + + + + + + +
10

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

+ .. Tissue examined microscopically

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Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE 100 ppm	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*** TOTALS****ALIMENTARY SYSTEM**

Liver + + + + + + + + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE 100 ppm	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*** TOTALS**

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder Transitional Epithelium, Hyperplasia	+	+	+	+	+	+	+	+	+	+	10
	1			1	1		1	1	1		6 1.0

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

+ .. Tissue examined microscopically

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2) Mild 4) Marked

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Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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Time Report Reqsted: 07:28:41

First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

	0	0	0	0	0	0	0	0	0	0
DAY ON TEST	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
<hr/>										
B6C3F1 MICE FEMALE 200 ppm	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*** TOTALS****ALIMENTARY SYSTEM**

Liver + + + + + + + + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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

+ .. Tissue examined microscopically

x .. Lesion present

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
B6C3F1 MICE FEMALE 200 ppm	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

NONE

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
--------	---	---	---	---	---	---	---	---	---	---	----

Urinary Bladder Transitional Epithelium, Hyperplasia	+	+	+	+	+	+	+	+	+	+	10
	2	2	1	2	2	1	1	1	2	2	10 1.6

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TDMS No. 20302 - 04

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Lab: BNW

B6C3F1 MICE FEMALE 400 ppm	ANIMAL ID	DAY ON TEST										* TOTALS
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		6	6	6	6	6	6	6	6	6	6	
		0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1	
		1	1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	M	+	+	+	+	+	M	+	M		7
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10

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

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TDMS No. 20302 - 04

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First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

B6C3F1 MICE FEMALE 400 ppm	ANIMAL ID	DAY ON TEST										* TOTALS
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		6	6	6	6	6	6	6	6	6	6	
		0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1	
		1	1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0	

CARDIOVASCULAR SYSTEM

Heart	+	+	+	+	+	+	+	+	+	+	+	10
	1											1 1.0

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	M	+	+	+	+	+	M	M	M		5
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

+ .. Tissue examined microscopically

x .. Lesion present

I .. Insufficient tissue

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TDMS No. 20302 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	6	6	6	6	6	6	6	6	6	6	
B6C3F1 MICE FEMALE 400 ppm	0	0	0	0	0	0	0	0	0	* TOTALS	
	1	1	1	1	1	1	1	1	1		
	1	1	1	1	1	1	1	1	1		
	0	0	0	0	0	0	0	0	1		
	1	2	3	4	5	6	7	8	9		

Clitoral Gland

+ + M + + + + M + + 8

Ovary

+ + + + + + + + + + 10

Uterus

+ + + + + + + + + + 10

HEMATOPOIETIC SYSTEM

Bone Marrow

+ + + + + + + + + + 10

Lymph Node, Bronchial

M + + + + + + + + + | 8

Lymph Node, Mandibular

+ + + + + + + + + M 9

Lymph Node, Mediastinal

M M M + M M M M + M 2

Lymph Node, Mesenteric

+ + + + + + + + + + 10

Spleen

+ + + + + + + + + + 10

Thymus

+ + + + + + + + + + 10

INTEGUMENTARY SYSTEM

Mammary Gland

+ + + + + + + + + + 10

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TDMS No. 20302 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W.

Date Report Reqsted: 11/17/2006

Time Report Reqsted: 07:28:41

First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| B6C3F1 MICE FEMALE
400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

* TOTALS

Skin + + + + + + + + + + 10

MUSCULOSKELETAL SYSTEM

Bone + + + + + + + + + + 10

NERVOUS SYSTEM

Brain + + + + + + + + + + 10

RESPIRATORY SYSTEM

Larynx + + + + + + + + + + 10

Lung + + + + + + + + + + 4 10 1 4.0
Alveolar Epithelium, Hyperplasia

Nose + + + + + + + + + + 10

Trachea + + + + + + + + + + 10

SPECIAL SENSES SYSTEM

Eye + + + + + + + + + + 10

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+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

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Page 36

1-4 .. Lesion qualified as:

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2) Mild 4) Marked

TDMS No. 20302 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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First Dose M/F: 03/28/05 / 03/28/05

Lab: BNW

| | | | | | | | | | | |
|---------------------------|------------------|-----------------|---|---|---|---|---|---|---|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | DAY ON TEST | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| <hr/> | | | | | | | | | | |
| B6C3F1 MICE FEMALE | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 ppm | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| <hr/> | | | | | | | | | | |
| | | * TOTALS | | | | | | | | |

Harderian Gland

+ + + + + + + + + +

10

URINARY SYSTEMKidney
Nephropathy

+ + + + + + + + + +

10

1 1.0

Urinary Bladder
Transitional Epithelium, Hyperplasia

+ + + + + + + + + +

10

10 2.2

***** END OF REPORT *****

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

+ .. Tissue examined microscopically

x .. Lesion present

l .. Insufficient tissue

M .. Missing tissue

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