

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:38

First Dose M/F: NA / NA

Lab: BAT

C Number: C20107

Lock Date: 07/14/2004

Cage Range: All

Date Range: All

Reasons For Removal: All

Removal Date Range: All

Treatment Groups: All

Study Gender: Both

PWG Approval Date NONE

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**F 344/N Rat Male
0 MG/KG**

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

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	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
Hyperplasia, Lymphoid							1				1 1.0
Liver	+	+	+	+	+	+	+	+	+	+	10
Fatty Change, Focal		1									1 1.0
Hematopoietic Cell Proliferation			1			1	1	1			4 1.0
Hepatocyte, Necrosis			1		1				1		3 1.0
Inflammation, Chronic Active	1		1		1	1	1	1			7 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Lymphocyte	3	2	2	2	1	1	2		1	2	9 1.8
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10

* ..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

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2) Mild 4) Marked

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Lab: BAT

F 344/N Rat Male
0 MG/KG

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	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

Cardiomyopathy

1	1	1	2	2	1	2	1	1	2	10	1.4
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Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	10	
Vacuolization Cytoplasmic	1	1	1	2	1	1	1	1	1	10	1.1
Adrenal Medulla	+	+	+	+	+	+	+	+	+	10	
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	10	
Parathyroid Gland	+	+	+	+	M	+	+	+	+	9	
Pituitary Gland	+	+	+	+	+	+	+	+	+	10	
Thyroid Gland	+	+	+	+	+	+	+	+	+	10	

General Body System

NONE

Genital System

Epididymis	+	+	+	+	+	+	+	+	+	10	
Inflammation		1								2	1.0
Preputial Gland	+	+	+	+	+	+	+	+	+	10	
Duct, Ectasia					2					1	2.0
Prostate	+	+	+	+	+	+	+	+	+	10	
Epithelium, Hyperplasia						1				2	1.5
Seminal Vesicle	+	+	+	+	+	+	+	+	+	10	
Testes	+	+	+	+	+	+	+	+	+	10	

Hematopoietic System

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0 MG/KG**

DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
ANIMAL ID	9	9	9	9	9	9	9	9	9	9
	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	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									

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node											+
Mediastinal, Hyperplasia, Lymphoid											2
Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M	0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis											1
Hematopoietic Cell Proliferation	1	1	1	1	1	1	1	1	1	1	9 1.0
Mesothelium, Hypertrophy											2
Pigmentation	1	1	1	1	1	1	1	1	1	1	10 1.0
Thymus	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage											2
											1 2.0

Integumentary System

Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10

Musculoskeletal System

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

Nervous System

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

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0 MG/KG**

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

Respiratory System

Lung	+	+	+	+	+	+	+	+	+	+	10
Alveolus, Infiltration Cellular, Histiocyte						1					1 1.0
Inflammation, Chronic Active	1	1	1	1	2	2	1	2	1	1	10 1.3
Nose	+	+	+	+	+	+	+	+	+	+	10
Respirat Epith, Hyperplasia							1				1 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active						2		1			2 1.5

Special Senses System

Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
Pigmentation							1		2		2 1.5

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	+	10
Mineralization							1				1 1.0
Nephropathy	1	1	1		1	1	1	1	1	1	9 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Male
62.5 MG/KG

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

*TOTALS

Alimentary System

Liver	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic Cell Proliferation	1	1		1	1	1	1	1	1	1	8 1.0
Hepatocyte, Hypertrophy	1									1	2 1.0
Hepatocyte, Necrosis								1	1	1	3 1.0
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10 1.0
Pigmentation		1	1				1		1		4 1.0
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia	2	2	2	2	2	2	2	2	2	2	10 2.0

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62.5 MG/KG**

DAY ON TEST										
	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
	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	0	0	0	0
	1	1	1	1	1	1	1	1	1	2
	1	2	3	4	5	6	7	8	9	0
	*TOTALS									
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis		1			1	1	1			5 1.0
Congestion	1	1	2	1	1	1	2	1	1	1
Hematopoietic Cell Proliferation	2	2	2	2	2	2	2	2	2	10 2.0
Mesothelium, Hypertrophy		2	1			1	1			5 1.2
Pigmentation	2	2	3	2	2	2	2	2	2	10 2.1
Thymus	+	+	+	+	+	+	+	+	+	10

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Lung

+

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Lab: BAT

F 344/N Rat Male
62.5 MG/KG

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

*TOTALS

Respirat Epith, Hyperplasia	1						1			2 1.0
Respirat Epith, Metaplasia, Squamous		1	2	2	2	1	1		1	8 1.5
Trachea	+	+	+	+	+	+	+	+	+	10

Special Senses System

NONE

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	10
Mineralization	1	1			1		1			4 1.0
Nephropathy	1	1	1	1	1	1	1	1	1	10 1.0
Pigmentation	1	1	1	1	1	1	1	1	1	10 1.0

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First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Male
125 MG/KG

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

*TOTALS

Alimentary System

Liver	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic Cell Proliferation	1	1	1	1	1	1	1	1	1	1	10 1.0
Hepatocyte, Hypertrophy	1	1	1	1	1	1	1	1	1	1	9 1.0
Hepatocyte, Necrosis					1	1	1	1	1	1	5 1.0
Hepatodiaphragmatic Nodule					X						1
Inflammation, Chronic Active		1	1	1	1	1	1	1	1	1	9 1.0
Pigmentation	1	1	1			1	1	1	1	1	7 1.0
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Inflammation					1						1 1.0
Ulcer					2						1 2.0

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

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**F 344/N Rat Male
125 MG/KG**

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

*TOTALS

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia	3	3	2	3	3	3	3	3	3	3	10 2.9
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis	1	3	2	1	1	1	1	1	1	2	10 1.4
Congestion	1	2	2	2	2	2	2	1	2	2	10 1.8
Hematopoietic Cell Proliferation	2	2	2	2	2	2	2	2	2	2	10 2.0
Mesothelium, Hypertrophy	2	2	1	1	2	1	1	2			8 1.5
Pigmentation	2	2	2	2	2	3	3	2	2	2	10 2.2
Thymus	+	+	+	+	+	+	+	+	+	+	10

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Lung	+	+	+	+	+	+	+	+	+	+	10
Alveolus, Metaplasia, Squamous, Focal					2						1 2.0

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Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:39

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Male
125 MG/KG**

DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
ANIMAL ID	9 9 9 9 9 9 9 9 9 9									
	3 3 3 3 3 3 3 3 3 3									
Inflammation, Chronic Active	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
Nose	0 0 0 0 0 0 0 0 0 0									
	2 2 2 2 2 2 2 2 2 2									
Glands, Hyperplasia	1 1 1 1 1 1 1 1 1 1									
	2 3 3 2 2 3 2 3 3 2									
Olfactory Epi, Degeneration	2 3 3 2 2 3 2 3 3 2									
	1 1 1 2 2 1 1 2 1 1									
Respirat Epith, Hyperplasia	1 1 1 2 2 1 1 2 1 1									
	3 1 2 3 3 3 3 2 3 2									
Respirat Epith, Metaplasia, Squamous	2 2 2 2 2 2 2 2 2 2									
	1 1 1 2 2 1 1 2 1 1									
Trachea	1 1 1 2 2 1 1 2 1 1									
	+ + + + + + + + + +									
Inflammation, Chronic Active	1 1 1 1 1 1 1 1 1 1									
	1 1 1 1 1 1 1 1 1 1									

***TOTALS**

Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	9	1.0
Nose	+	+	+	+	+	+	+	+	+	+	10	
Glands, Hyperplasia	2	2	2	2	2	2	2	1	1	2	2	10 1.8
Olfactory Epi, Degeneration	2	3	3	2	2	3	2	3	3	2	10	2.5
Respirat Epith, Hyperplasia	1	1	1	2	2	1	1	2	1	1	7	1.4
Respirat Epith, Metaplasia, Squamous	3	1	2	3	3	3	3	2	3	2	10	2.5
Trachea	+	+	+	+	+	+	+	+	+	+	10	
Inflammation, Chronic Active								1			2	1.0

Special Senses System

NONE

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	+	10	
Mineralization	1	3	1	1	1	1	1	1	1	2	1	10 1.3
Nephropathy	1	1	1	1	1	1	1	1	1	1	1	10 1.0
Papilla, Necrosis	3		1	1	1	1	1	1	1	1	1	7 1.3
Pigmentation	1	1	1	1	1	1	1	1	1	1	1	10 1.0
Renal Tubule, Dilatation	3				1					2	2	2.0

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:39

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Male
250 MG/KG

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

*TOTALS

Alimentary System

Liver	+	+	+	+	+	+	+	+	+	+	10
Bile Duct, Hyperplasia					1		1	1			3 1.0
Hematopoietic Cell Proliferation	1		1	1	1	1	1	1	1		8 1.0
Hepatocyte, Hypertrophy	2	1	1	1	1	1	1	1	1	2	10 1.2
Hepatocyte, Necrosis			1	1	1						3 1.0
Hepatodiaphragmatic Nodule			X								1
Inflammation, Chronic Active			1	1	1	1		1	1		6 1.0
Pigmentation	1	1	1	1	1	1		1	1	1	9 1.0
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia, Squamous							1	1			2 1.0

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

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Experiment Number: 20107-01

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Lab: BAT

F 344/N Rat Male
250 MG/KG

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

*TOTALS

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia	3	3	3	3	3	3	3	3	3	3	10 3.0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis	3	3	3	3	2	2	3	2	3	3	10 2.7
Congestion	2	3	2	3	2	2	3	2	3	2	10 2.4
Hematopoietic Cell Proliferation	2	2	2	1	2	2	2	2	2	2	10 1.9
Lymph Follic, Atrophy	2	2	2	2	1	1	1			1	8 1.5
Mesothelium, Hypertrophy	2	2	2	2	1	1	1	1	1	2	10 1.5
Pigmentation	2	2	2	2	2	2	2	2	2	2	10 2.0
Thymus	+	+	+	+	+	+	+	+	+	+	10

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Lung

+

+

+

+

+

+

+

+

+

+

+

10

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Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

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Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:40

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Male
250 MG/KG**

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

*TOTALS

Inflammation, Chronic Active	1	1	1	1	1	1	3	1	1	1	10	1.2
Nose	+	+	+	+	+	+	+	+	+	+	10	
Glands, Hyperplasia	2	2	2	3	2	2	2	2	2	2	10	2.1
Olfactory Epi, Degeneration	3	3	3	3	3	3	3	3	3	3	10	3.0
Olfactory Epi, Metaplasia	2	2	2	2	1	1		2	2	3	9	1.9
Respirat Epith, Hyperplasia	2	2	2	2	1	2	1	1	1	1	10	1.5
Respirat Epith, Metaplasia, Squamous	3	3	3	3	3	3	2	3	3	2	10	2.8
Trachea	+	+	+	+	+	+	+	+	+	+	10	
Inflammation, Chronic Active		1			1			1			3	1.0

Special Senses System

NONE

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	+	10	
Mineralization	1	3	1	3	2	2	2	2	1	1	10	1.8
Nephropathy	1	2	1	1	1	1	1	1	1	1	10	1.1
Papilla, Necrosis	2	2	2	2	1	2	1				7	1.7
Pigmentation	2	2	1	2	1	2	1	2	2	1	10	1.6
Renal Tubule, Dilatation		2									1	2.0

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Time Report Requested: 11:59:40

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Male
500 MG/KG**

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

TOTALS*Alimentary System**

Esophagus	+	+	+	+	+	+	+	+	+	+	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
Basophilic Focus				X		X					2
Bile Duct, Hyperplasia							1				1 1.0
Centrilobular, Fatty Change						1					1 1.0
Centrilobular, Hepatocyte, Necrosis					3						1 3.0
Hematopoietic Cell Proliferation	1	1	1	1	1	1	1	1	1	1	7 1.0
Hepatocyte, Hypertrophy	2	2	2	2	2	2	2	1	2	1	10 1.8
Hepatocyte, Necrosis	1	1			1		1	1			5 1.0
Hepatodiaphragmatic Nodule			3								1 3.0
Inflammation, Chronic Active	1	2	1			1	1	1	1		7 1.1
Pigmentation	1	1	1	1	1	1	1	1	1		9 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Lymphocyte	2	3	2	2	1		2				6 2.0
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10

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1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
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Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:40

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Male
500 MG/KG**

DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
ANIMAL ID	9 9 9 9 9 9 0 9 9 9									
	3 3 3 3 3 3 3 3 3 3									
										*TOTALS

Fibrosis	2	1	2.0
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Stomach, Forestomach	+	+	+	+	+	+	+	+	+	10
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Hyperplasia, Squamous							3	1		2 2.0
-----------------------	--	--	--	--	--	--	---	---	--	-------

Inflammation		1	1		1	2	2			5 1.4
--------------	--	---	---	--	---	---	---	--	--	-------

Mineralization						1				1 1.0
----------------	--	--	--	--	--	---	--	--	--	-------

Ulcer						3				1 3.0
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Stomach, Glandular	+	+	+	+	+	+	+	+	+	10
--------------------	---	---	---	---	---	---	---	---	---	----

Inflammation					1					1 1.0
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Cardiovascular System

Blood Vessel	+	+	+	+	+	+	+	+	+	10
--------------	---	---	---	---	---	---	---	---	---	----

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

Cardiomyopathy	1	1	1	1		1	1			6 1.0
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Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	10
----------------	---	---	---	---	---	---	---	---	---	----

Mineralization		2								1 2.0
----------------	--	---	--	--	--	--	--	--	--	-------

Vacuolization Cytoplasmic			1							1 1.0
---------------------------	--	--	---	--	--	--	--	--	--	-------

Adrenal Medulla	+	+	+	+	+	+	+	+	+	10
-----------------	---	---	---	---	---	---	---	---	---	----

Islets, Pancreatic	+	+	+	+	+	+	+	+	+	10
--------------------	---	---	---	---	---	---	---	---	---	----

Parathyroid Gland	+	+	+	+	M	+	+	+	M	8
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Pituitary Gland	+	+	+	+	+	+	+	+	+	10
-----------------	---	---	---	---	---	---	---	---	---	----

Thyroid Gland	+	+	+	+	+	+	+	+	+	10
---------------	---	---	---	---	---	---	---	---	---	----

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First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Male
500 MG/KG

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

*TOTALS

General Body System

NONE

Genital System

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Epithelium, Hyperplasia							1	1		2	1.0
Inflammation, Chronic Active							1			1	1.0
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10
Atrophy							1			1	1.0

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia	3	3	3	3	3	3	2	3	3	3	10 2.9
Lymph Node					+					1	
Mediastinal, Hyperplasia, Lymphoid				2						1	2.0
Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M	0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Atrophy						2		2	1		3 1.7
Spleen	+	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis	3	3	3	3	3	3	3	2	2		9 2.8

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Lab: BAT

**F 344/N Rat Male
500 MG/KG**

DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
ANIMAL ID	9 9 9 9 9 9 0 9 9 9									
	3 3 3 3 3 3 3 3 3 3									

***TOTALS**

Congestion 3 3 3 3 3 3 3 3 3 3 9 3.0

Hematopoietic Cell Proliferation 1 1 2 2 2 2 2 2 2 2 9 1.8

Lymph Follic, Atrophy 3 3 3 3 2 3 4 2 2 2 10 2.7

Mesothelium, Hypertrophy 1 2 2 2 2 2 2 2 1 2 9 1.8

Pigmentation 2 2 2 2 2 2 2 2 2 2 9 2.0

Red Pulp, Atrophy 2 2 2 2 2 2 2 2 2 2 1 2.0

Thymus + + + + + + + + + + 10

Thymocyte, Necrosis 3 1 3.0

Integumentary System

Mammary Gland + + M + M M + + M M 5

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

Musculoskeletal System

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

Nervous System

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

Respiratory System

Lung + + + + + + + + + + 10

Alveolus, Infiltration Cellular, Histiocyte 1 1 1.0

Inflammation, Chronic Active 1 1 1 1 1 1 1 1 1 1 10 1.0

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

Glands, Hyperplasia 2 2 3 2 2 2 2 2 2 2 9 2.1

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Lab: BAT

**F 344/N Rat Male
500 MG/KG**

DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
ANIMAL ID	9 9 9 9 9 9 0 9 9 9									
	3 3 3 3 3 3 3 3 3 3									
										*TOTALS

Glands, Hyperplasia	2	2	3	2	2	2	2	2	2	9	2.1	
Olfactory Epi, Degeneration	3	3	3	3	3	3	4	3	3	3	10	3.1
Olfactory Epi, Metaplasia	3	3	3	3	3	3	3	3	3	2	9	2.9
Respirat Epith, Hyperplasia	2	2	2	2	1	2	2	1	2	9	1.8	
Respirat Epith, Metaplasia, Squamous	3	3	3	3	3	3	3	3	3	9	3.0	
Trachea	+	+	+	+	+	+	+	+	+	10		
Inflammation, Chronic Active					2		1		2	3	1.7	

Special Senses System

Eye	+	+	+	+	+	+	+	+	+	+	10
Antr Chamber, Inflammation, Suppurative				4						1	4.0
Cataract				3						1	3.0
Ciliary Body, Inflammation, Suppurative				4						1	4.0
Cornea, Ulcer				4						1	4.0
Retina, Degeneration				3						1	3.0
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
Epithelium, Hyperplasia				3						1	3.0
Hemorrhage				3						1	3.0
Infiltration Cellular, Lymphocyte				3						1	3.0
Inflammation, Chronic Active				3						1	3.0
Pigmentation				2						1	2.0

Urinary System

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

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Date Report Requested: 10/22/2014

Time Report Requested: 11:59:40

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Male
500 MG/KG

DAY ON TEST											
	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	0	9	9	9	
	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	0	0	0	0	
	4	4	4	4	4	4	4	4	4	5	
	1	2	3	4	5	6	7	8	9	0	
	*TOTALS										
Mineralization	3	2	2	1	2	2	3	2	8	2.1	
Nephropathy	2	1	1	1	1	2	1	3	2	9	1.6
Papilla, Necrosis	3	3	2	2	2	2	2	4	2	9	2.4
Pigmentation	2	2	1	2	2	2	2	2	2	9	1.9
Renal Tubule, Dilatation	1		3				2		3	2.0	
Urinary Bladder	+	+	+	+	+	+	+	+	+	10	

* ..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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:40

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Male
1000 MG/KG**

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

*TOTALS

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	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
Centrilobular, Fatty Change					1	1			2	1.0	
Centrilobular, Hepatocyte, Necrosis	3	3	3	2	3	3	3	3	3	3	10 2.9
Hepatocyte, Hypertrophy	2	2	2	2	2	2	2	2	1	1	10 1.8
Inflammation, Chronic Active					1	1			2	1.0	
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage						2			1	2.0	
Inflammation	3	2	3	2	3	3	3	1	2	9	2.4
Mineralization					1					1	1.0
Ulcer	3	2	2	2	2	2	2			7	2.1
Stomach, Glandular	+	+	+	+	+	+	+	+	+	10	
Ulcer					2				1	2.0	

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Male
1000 MG/KG

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

*TOTALS

Cardiovascular System

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy							1				1 1.0

Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	M	+	+	+	+	M	M	+	+	7
Pituitary Gland	+	+	+	+	+	M	+	+	+	+	9
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

General Body System

NONE

Genital System

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	M	+	+	+	+	+	+	+	M	8
Testes	+	+	+	+	+	+	+	+	+	+	10

Hematopoietic System

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Male
1000 MG/KG**

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

***TOTALS**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia	2	3	3	2	2	2	1	1	1	1	10 1.8
Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M	0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Atrophy	2	2	2	2	3			1	3		6 2.2
Necrosis, Lymphoid					2	2					2 2.0
Spleen	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic Cell Proliferation	1	1	1	1	1	1	1	1	1		9 1.0
Lymph Follic, Atrophy	4	4	4	3	4	4	3	3	4	4	10 3.7
Red Pulp, Atrophy	2	3	2	3	3	3	3	2	3	3	10 2.7
Thymus	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage	2	2	3	2	2	3		2	2		7 2.3
Thymocyte, Necrosis	3	3	3	3	3	3	3	3	3	4	10 3.1

Integumentary System

Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10

Musculoskeletal System

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

Nervous System

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

Respiratory System

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Male
1000 MG/KG**

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

***TOTALS**

Lung	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10
Thrombosis			2			1					2 1.5
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epi, Degeneration	4	4	4	4	4	4	4	4	4	4	10 4.0
Respirat Epi, Hyperplasia	2	2	2		1			2	2	2	7 1.9
Respirat Epi, Metaplasia, Squamous						2					1 2.0
Trachea	+	+	+	+	+	+	+	+	+	+	10

Special Senses System

Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
Pigmentation	2	2	2	2	2	2	2	2	2	2	9 2.0

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage			2			2					2 2.0
Nephropathy	1	1						1			3 1.0
Papilla, Necrosis	1		2								2 1.5
Renal Tubule, Dilatation			1		2		1				3 1.3
Urinary Bladder	+	+	+	+	M	+	+	+	+	+	9
Hemorrhage	1		3								2 2.0

*****END OF MALE DATA*****

* ..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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female 0 MG/KG	DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
		0 0 0 0 0 0 0 0 0 0									
		9 9 9 9 9 9 9 9 9 9									
		3	3	3	3	3	3	3	3	3	3
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
	6	6	6	6	6	6	6	6	6	6	7
	1	2	3	4	5	6	7	8	9	0	*TOTALS

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Muscularis, Inflammation											1 1.0
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
Hematopoietic Cell Proliferation	1	1	1	1	1	1	1	1	1	1	5 1.0
Hepatocyte, Necrosis	1										1 1.0
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	8 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Lymphocyte	3	2			1	2	1	1	2	7	1.7
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy	1	1			1	1	1	2	1	7	1.1

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
0 MG/KG**

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

***TOTALS**

Inflammation

2

1 2.0

Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	+	M	+	9
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

General Body System

NONE

Genital System

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Inflammation							1	1			2 1.0
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10
Endometrium, Hyperplasia, Cystic							3		1	3.0	

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M	0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10

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

+ ..Tissue examined microscopically

M ..Missing tissue

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- 1) Minimal 3) Moderate
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Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
0 MG/KG**

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

***TOTALS**

Spleen	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic Cell Proliferation	1	1	1	1	1	1	1	1	1	1	10 1.0
Pigmentation	1	1	1	1	1	1	1	1	1	1	10 1.0
Thymus	+	+	+	+	+	+	+	+	+	+	10
Integumentary System											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
Musculoskeletal System											
Bone	+	+	+	+	+	+	+	+	+	+	10
Nervous System											
Brain	+	+	+	+	+	+	+	+	+	+	10
Respiratory System											
Lung	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	1	1		1	1	1	1	1	1	1	8 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10
Special Senses System											
Eye	+	+	+	+	+	+	+	+	+	+	10
Ciliary Body, Inflammation	2										1 2.0
Cornea, Inflammation	2										1 2.0

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

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Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
0 MG/KG

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

*TOTALS

Retina, Atrophy		2		1	2.0					
Retina, Degeneration	4			1	4.0					
Harderian Gland	+	+	+	+	+	+	+	+	+	10
Inflammation	2	4		3				3	3.0	
Mineralization			1					1	1.0	
Pigmentation	2	3	2	2	3	1	2	3	2	1
Lacrimal Gland					+			1		

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	10
Mineralization	1	1	1	1	1	1	1	1	1	9
Nephropathy						1	1			2
Urinary Bladder	+	+	+	+	+	+	+	+	+	10
Inflammation						1			1	1.0

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

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2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
62.5 MG/KG

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

*TOTALS

Alimentary System

Liver	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic Cell Proliferation	1	1	1		1		1	1			6 1.0
Hepatocyte, Hypertrophy				1							1 1.0
Hepatocyte, Necrosis	2			1	2		1	2	1		6 1.5
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10 1.0
Pigmentation	1	1	1	1	1	1	1	1	1	1	10 1.0
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy	1	1		1				1			4 1.0

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
62.5 MG/KG**

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

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia	2	2	2	2	2	2	2	2	1	2	2	10 1.9
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis	1	1				1						3 1.0
Congestion	1											2 1.0
Hematopoietic Cell Proliferation	2	2	2	2	2	2	2	2	1	2	2	10 1.9
Mesothelium, Hypertrophy	1											1 1.0
Pigmentation	2	2	2	2	2	2	2	2	2	2	2	10 2.0
Thymus	+	+	+	+	+	+	+	+	+	+	+	10

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Lung	+	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	1		1	1	1					1		5 1.0
Nose	+	+	+	+	+	+	+	+	+	+		10
Glands, Hyperplasia	1				1				1			3 1.0

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
62.5 MG/KG

DAY ON TEST										
	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
	3	3	3	3	3	3	3	3	3	3

*TOTALS

Glands, Hyperplasia	1					1			1		3	1.0
Olfactory Epi, Degeneration	1	2		1	2		1		1	1	7	1.3
Respirat Epith, Hyperplasia									1		1	1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10	

Special Senses System

NONE

Urinary System

Kidney	+	+	+	+	+	+	+	+	+	+	10	
Mineralization	1	1		1		1		1	1		6	1.0
Nephropathy			1			1					2	1.0
Pigmentation	1	1	1	1	1	1	1	1	1	1	10	1.0

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
125 MG/KG

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

*TOTALS

Alimentary System

Liver	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic Cell Proliferation	1		1	1		1	1	1	1	1	8 1.0
Hepatocyte, Hypertrophy		1	1		1	1	1	1	1		7 1.0
Hepatocyte, Necrosis		1	2	2	1	1					5 1.4
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10 1.0
Pigmentation	1	1	1	1	1	1	1	1	1	1	10 1.0
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy	1	1	1		1	1	1		1		7 1.0

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
125 MG/KG**

DAY ON TEST	0 0 0 0 0 0 0 0 0 0										
	0 0 0 0 0 0 0 0 0 0										
ANIMAL ID	9 9 9 9 9 9 9 9 9 9	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 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 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	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	
*TOTALS											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia	2	3	3	3	3	2	3	2	3	3	10 2.7
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Capsule, Fibrosis	1	2	1	1	2			1	1		7 1.3
Congestion	1	2	1	2	2	1	1	1	1	2	10 1.4
Hematopoietic Cell Proliferation	2	2	2	2	1	2	2	2	2	2	10 1.9
Mesothelium, Hypertrophy						2		1			2 1.5
Pigmentation	2	2	2	2	2	2	2	2	2	2	10 2.0
Thymus	+	+	+	+	+	+	+	+	+	+	10

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Lung

Inflammation, Chronic Active

Nose

Glands, Hyperplasia

+ + + + + + + + + + 10

1 1 1 1 1 1 1 1 1 1 8 1.0

+ + + + + + + + + + 10

1 2 2 2 2 1 2 1 2 9 1.7

* ..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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:41

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
125 MG/KG

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | 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 | 0 | 0 | 0 | 0 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

| | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|----|-----|
| Glands, Hyperplasia | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 9 | 1.7 |
| Olfactory Epi, Degeneration | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 10 | 2.1 |
| Respirat Epith, Hyperplasia | 1 | 1 | 1 | | 2 | 1 | 1 | 1 | | 7 | 1.1 |
| Respirat Epith, Metaplasia, Squamous | 2 | 1 | 2 | | 2 | | 1 | | 1 | 6 | 1.5 |
| Trachea | + | + | + | + | + | + | + | + | + | 10 | |

Special Senses System

NONE

Urinary System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|----|-----|
| Kidney | + | + | + | + | + | + | + | + | + | + | 10 |
| Mineralization | 2 | 2 | 1 | | 1 | | 1 | | 1 | 6 | 1.3 |
| Nephropathy | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 9 | 1.0 |
| Pigmentation | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1.0 |

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
250 MG/KG

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 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 | 1 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 |

*TOTALS

Alimentary System

| | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Angiectasis | | | | | | | | | | | 1 1.0 |
| Hematopoietic Cell Proliferation | 1 | | 1 | | 1 | 1 | 1 | | | | 6 1.2 |
| Hepatocyte, Hypertrophy | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 2 | | 9 1.1 |
| Hepatocyte, Necrosis | 2 | 1 | 2 | | 1 | | | 1 | 1 | 1 | 7 1.3 |
| Hepatodiaphragmatic Nodule | | | | | X | | | | | | 1 |
| Inflammation, Chronic Active | | | | | | 1 | 1 | | 2 | 1 | 4 1.3 |
| Pigmentation | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 10 1.8 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 10 |
| Erosion | | | | | | 2 | | | | | 1 2.0 |
| Inflammation | | | | | | 3 | | 1 | 1 | | 3 1.7 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 10 |

Cardiovascular System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-------|
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |
| Cardiomyopathy | 1 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 7 1.0 |

Endocrine System

NONE

General Body System

NONE

* ..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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
250 MG/KG

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | 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 | 0 | 0 | 0 | 1 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Genital System

NONE

Hematopoietic System

| | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Hyperplasia | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 10 3.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 10 |
| Atrophy | | | | | | | | | | | 2 1 2.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 10 |
| Capsule, Fibrosis | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 10 2.2 |
| Congestion | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 10 2.4 |
| Hematopoietic Cell Proliferation | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 10 2.3 |
| Mesothelium, Hypertrophy | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 1.1 |
| Pigmentation | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 10 1.9 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 10 |

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

* ..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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
250 MG/KG

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | 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 | 0 | 0 | 0 | 1 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Respiratory System

| | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Lung | + | + | + | + | + | + | + | + | + | + | 10 |
| Inflammation, Chronic Active | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | 10 |
| Glands, Hyperplasia | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 1.9 |
| Olfactory Epi, Degeneration | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 10 3.0 |
| Olfactory Epi, Metaplasia | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 7 1.6 |
| Respirat Epith, Hyperplasia | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 10 1.7 |
| Respirat Epith, Metaplasia, Squamous | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 10 2.2 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 10 |

Special Senses System

NONE

Urinary System

| | | | | | | | | | | | |
|-------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Kidney | + | + | + | + | + | + | + | + | + | + | 10 |
| Mineralization | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 8 1.1 |
| Nephropathy | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
| Papilla, Necrosis | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 6 1.5 |
| Pigmentation | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
500 MG/KG

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 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*Alimentary System**

| | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 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 |
| Bile Duct, Hyperplasia | | | | 2 | | | | | | | 1 2.0 |
| Centrilobular, Hepatocyte, Necrosis | | | | | | | | 2 | | | 1 2.0 |
| Clear Cell Focus | | X | | | | | | | X | | 2 |
| Fatty Change, Focal | | | | 2 | | | | | | | 1 2.0 |
| Hematopoietic Cell Proliferation | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 1.0 |
| Hepatocyte, Hypertrophy | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 10 2.7 |
| Hepatocyte, Necrosis | 1 | 1 | | | 1 | 2 | 1 | 1 | | | 6 1.2 |
| Hepatodiaphragmatic Nodule | | | | X | | | | | | | 1 |
| Inflammation, Chronic Active | 1 | 2 | | 1 | | | 1 | 1 | | | 5 1.2 |
| Pigmentation | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 10 1.9 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |
| Infiltration Cellular, Lymphocyte | 1 | 1 | | 1 | | | 2 | | | | 4 1.3 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 10 |

* ..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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
500 MG/KG**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

***TOTALS**

Stomach, Forestomach + + + + + + + + + + 10

Inflammation 3 1 2 2.0

Mineralization 1 1 1.0

Ulcer 2 1 2.0

Stomach, Glandular + + + + + + + + + + 10

Inflammation, Granulomatous 3 1 3.0

Cardiovascular System

Blood Vessel + + + + + + + + + + 10

Heart + + + + + + + + + + 10

Cardiomyopathy 1 1 1 1 1 1 6 1.0

Endocrine System

Adrenal Cortex + + + + + + + + + + 10

Adrenal Medulla + + + + + + + + + + 10

Islets, Pancreatic + + + + + + + + + + 10

Parathyroid Gland + M + + + + + + + + 9

Pituitary Gland + + + + + + + + + + 10

Thyroid Gland + + + + + + + + + + 10

Infiltration Cellular, Lymphocyte 2 1 2.0

General Body System

NONE

Genital System

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

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First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
500 MG/KG

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 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*Genital System**

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Inflammation | | | | | | | | | | | 3 |
| Ovary | + | + | + | + | + | + | + | + | + | + | 10 |
| Uterus | + | + | + | + | + | + | + | + | + | + | 10 |

Hematopoietic System

| | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Hyperplasia | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 10 |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | 0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 10 |
| Atrophy | 2 | 2 | 2 | 2 | 3 | | 2 | | | | 6 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 10 |
| Capsule, Fibrosis | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 10 |
| Congestion | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 10 |
| Hematopoietic Cell Proliferation | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 |
| Lymph Follic, Atrophy | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 10 |
| Mesothelium, Hypertrophy | 1 | 1 | 1 | 1 | | 1 | 2 | 1 | 1 | 1 | 9 |
| Pigmentation | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 10 |

Integumentary System

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

* ..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

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
500 MG/KG**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 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

| | | |
|--------------------------------------|---------------------|--------|
| Lung | + + + + + + + + + + | 10 |
| Inflammation, Chronic Active | 1 1 1 1 1 1 1 1 1 1 | 8 1.0 |
| Nose | + + + + + + + + + + | 10 |
| Glands, Hyperplasia | 2 1 2 2 2 2 2 1 2 4 | 10 2.0 |
| Olfactory Epi, Degeneration | 3 3 3 3 3 3 3 3 3 3 | 10 3.0 |
| Olfactory Epi, Metaplasia | 3 3 3 3 2 3 3 3 3 3 | 10 2.9 |
| Respirat Epith, Hyperplasia | 2 1 2 1 2 2 2 1 2 2 | 10 1.7 |
| Respirat Epith, Metaplasia, Squamous | 3 3 3 3 2 2 3 2 3 2 | 10 2.6 |
| Trachea | + + + + + + + + + + | 10 |

Special Senses System

| | | |
|-----------------|---------------------|-------|
| Eye | + + + + + + + + + + | 10 |
| Harderian Gland | + + + + + + + + + + | 10 |
| Inflammation | 2 2 | 2 2.0 |
| Pigmentation | 1 1 1 1 2 2 2 1 | 8 1.4 |

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+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

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Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
500 MG/KG**

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 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 | + | + | + | + | + | + | + | + | + | + | 10 |
| Mineralization | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | 8 1.1 |
| Nephropathy | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 1 | 10 1.3 |
| Papilla, Necrosis | | | | | | | 2 | 3 | | | 2 2.5 |
| Pigmentation | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 10 1.6 |
| Renal Tubule, Dilatation | | | | | | | | 3 | | | 1 3.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 10 |
| Inflammation | | | | | | 1 | | | | | 1 1.0 |

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

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Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

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Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:42

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
1000 MG/KG**

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

TOTALS*Alimentary System**

| | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 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 |
| Centrilobular, Fatty Change | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 1.1 |
| Centrilobular, Hepatocyte, Necrosis | 2 | 2 | | 2 | | 2 | 1 | 1 | 3 | | 7 1.9 |
| Hematopoietic Cell Proliferation | | | | | | 1 | | | | | 1 1.0 |
| Hepatocyte, Hypertrophy | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 10 1.4 |
| Hepatocyte, Necrosis | | | | | | 2 | 2 | | | | 2 2.0 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |
| Infiltration Cellular, Lymphocyte | | | | | | 1 | | | | | 1 1.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 10 |
| Inflammation | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 10 2.3 |
| Mineralization | 2 | | 1 | 1 | | | | 2 | | | 4 1.5 |
| Ulcer | 2 | 2 | 1 | 2 | 3 | | 3 | 2 | 2 | | 8 2.1 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 10 |

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Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

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First Dose M/F: NA / NA

Lab: BAT

F 344/N Rat Female
1000 MG/KG

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

| | | | |
|--------------|---|---|-----|
| Inflammation | 2 | 1 | 2.0 |
| Ulcer | 2 | 2 | 2.0 |

Cardiovascular System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |
| Cardiomyopathy | | | | 1 | | | 1 | | | | 2 1.0 |

Endocrine System

| | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|-------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Hemorrhage | | | | | | | 3 | | | | 1 3.0 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland | M | + | + | + | + | + | M | + | + | + | 8 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 10 |

General Body System

NONE

Genital System

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Ovary | + | + | + | + | + | + | + | + | + | + | 10 |
| Uterus | + | + | + | + | + | + | + | + | + | + | 10 |

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M ..Missing tissue

X ..Lesion present

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2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:43

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
1000 MG/KG**

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

TOTALS*Hematopoietic System**

| | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|--------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Hyperplasia | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 |
| Lymph Node, Mandibular | M | M | M | M | M | M | M | M | M | M | 0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 10 |
| Atrophy | 2 | | | | | | 2 | 2 | 3 | 2 | |
| Necrosis, Lymphoid | 1 | | | | | | | | | | 1 1.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 10 |
| Hematopoietic Cell Proliferation | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 1.0 |
| Lymph Follicle, Atrophy | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 10 1.8 |
| Mesothelium, Hypertrophy | | | | | | | | | | | 1 1.0 |
| Red Pulp, Atrophy | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 10 3.0 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 10 |
| Hemorrhage | | | | | | | 2 | | 1 | | 2 1.5 |
| Thymocyte, Necrosis | 2 | 3 | 2 | 3 | 4 | 4 | 2 | 3 | 4 | 4 | 10 3.1 |

Integumentary System

| | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Skin | + | + | + | + | + | + | + | + | + | + | 10 |

Musculoskeletal System

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

Nervous System

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

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

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I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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- 2) Mild 4) Marked

Experiment Number: 20107-01

Test Type: 90-DAY

Route: Gavage

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: N,N-Dimethyl-p-toluidine

CAS Number: 99-97-8

Date Report Requested: 10/22/2014

Time Report Requested: 11:59:43

First Dose M/F: NA / NA

Lab: BAT

**F 344/N Rat Female
1000 MG/KG**

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

Brain

+ + + + + + + + + +

10

Respiratory System

Lung

+ + + + + + + + + +

10

Alveolus, Infiltration Cellular, Histiocyte

1 1 2

2 1.0

Hemorrhage

1 1 1

1 2.0

Inflammation, Chronic Active

1 1 1

2 1.0

Nose

+ + + + + + + + + +

10

Olfactory Epi, Degeneration

4 4 4 4 4 4 4 4 4 4

10 4.0

Respirat Epith, Hyperplasia

1 1 1 1 1 1 1 1 1 1

1 1.0

Respirat Epith, Metaplasia, Squamous

1 1 1 1 1 1 1 2 1 2

7 1.1

Trachea

+ + + + + + + + + +

10

Special Senses System

Eye

+ + + + + + + + + +

10

Harderian Gland

+ + + + + + + + + +

10

Pigmentation

3 2 2 3 3 2 2 2 2 2

9 2.3

Urinary System

Kidney

+ + + + + + + + + +

10

Nephropathy

1

1 1.0

Papilla, Necrosis

2

1 2.0

Renal Tubule, Dilatation

2 1 1 1 1 1 2 1 1 2

10 1.3

Urinary Bladder

+ + + + + + + + + +

10

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M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

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- 2) Mild 4) Marked

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Route: Gavage

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Date Report Requested: 10/22/2014

Time Report Requested: 11:59:43

First Dose M/F: NA / NA

Lab: BAT

** END OF REPORT **

* ..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