

Experiment Number: 88070-01
Test Type: 90-DAY
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: Isobutene
CAS Number: 115-11-7

Date Report Requested: 10/15/2014
Time Report Requested: 23:11:51
First Dose M/F: NA / NA
Lab: BNW

C Number:	C88070
Lock Date:	09/04/1992
Cage Range:	All
Date Range:	All
Reasons For Removal:	All
Removal Date Range:	All
Treatment Groups:	All
Study Gender:	Both
PWG Approval Date	NONE

Experiment Number: 88070-01

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CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male CONTROL

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	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
Hepatodiaphragmatic Nodule				X					X		2
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy			2	1		1			1		4 1.3

Endocrine System

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

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male CONTROL	DAY ON TEST										*TOTALS
	0	0	0	0	0	0	0	0	0	0	
ANIMAL ID	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	0	
	0	0	0	0	0	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	
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	+	+	+	10
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10
General Body System											
Tissue NOS									+		1
Genital System											
Epididymis	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Granulomatous							2				1 2.0
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic System											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	+	+	M	+	+	+	+	M	+	8
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	+	+	M	+	+	+	9
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Accessory Spleen									X		1

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

+ ..Tissue examined microscopically

M ..Missing tissue

1-4 ..Lesion qualified as:

X ..Lesion present

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1) Minimal 3) Moderate

I ..Insufficient tissue

BLANK ..Not examined microscopically

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Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

**F 344/N Rat Male
CONTROL**

	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	*TOTALS
	3	3	3	3	3	3	3	3	3	3	
Thymus	+	+	+	+	+	+	+	+	+	+	10
Integumentary System											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
Musculoskeletal System											
Bone	+	+	+	+	+	+	+	+	+	+	10
Nervous System											
Brain	+	+	+	+	+	+	+	+	+	+	10
Respiratory System											
Larynx	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage	1	1	1		2	1	1	1	1		8 1.1
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10
Special Senses System											
Zymbal's Gland				+							1
Urinary System											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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

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Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

**F 344/N Rat Male
500 PPM**

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
	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

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

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+ ..Tissue examined microscopically

M ..Missing tissue

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Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male
500 PPM

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	
	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

Respiratory System

Nose	+	+	+	+	+	+	+	+	+	+	10
Goblet Cell, Nasopharynx Dct, Hypertrophy		1						1	1	1	4 1.0

Special Senses System

NONE

Urinary System

NONE

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

+ ..Tissue examined microscopically

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1-4 ..Lesion qualified as:

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Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Isobutene

CAS Number: 115-11-7

Date Report Requested: 10/15/2014

Time Report Requested: 23:11:51

First Dose M/F: NA / NA

Lab: BNW

F 344/N Rat Male
1000 PPM

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	
	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											+	+	2
Hepatodiaphragmatic Nodule												X	1

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

Lymph Node, Mediastinal											M	0
Spleen											+	1
Accessory Spleen											X	1

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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1-4 ..Lesion qualified as:

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Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male 1000 PPM	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	*TOTALS
	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		

NONE
Nervous System

NONE
Respiratory System

Nose	+	+	+	+	+	+	+	+	+	+	10
Goblet Cell, Nasopharyn Dct, Hypertrophy	1	1	1		1	1		1	1		7 1.0

Special Senses System

NONE
Urinary System

NONE

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Isobutene

CAS Number: 115-11-7

Date Report Requested: 10/15/2014

Time Report Requested: 23:11:51

First Dose M/F: NA / NA

Lab: BNW

**F 344/N Rat Male
2000 PPM**

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
	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

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

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

X ..Lesion present

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1-4 ..Lesion qualified as:

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Test Compound: Isobutene

Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male 2000 PPM	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	*TOTALS
	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		

Respiratory System

Nose	+	+	+	+	+	+	+	+	+	+	10
Goblet Cell, Nasopharynx Dct, Hypertrophy	1	1		1	1	1	1	1	1	1	9 1.0

Special Senses System

NONE

Urinary System

NONE

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

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Test Compound: Isobutene

Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

**F 344/N Rat Male
4000 PPM**

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
	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 + 1

Hepatodiaphragmatic Nodule X 1

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

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Time Report Requested: 23:11:51

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male 4000 PPM	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	*TOTALS
	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		

NONE

Respiratory System

Nose	+	+	+	+	+	+	+	+	+	+	10
Goblet Cell, Nasopharyn Dct, Hypertrophy	1	1	1	1			1	1	1	1	8 1.0

Special Senses System

NONE

Urinary System

NONE

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+ ..Tissue examined microscopically

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Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

**F 344/N Rat Male
8000 PPM**

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

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Lymphoid Tiss, Hyperplasia, Lymphoid							2				1 2.0
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
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

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

Endocrine System

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

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

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X ..Lesion present

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A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male
8000 PPM

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	*TOTALS
	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	
	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	
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	M	+	+	+	+	M	+	M	7
Pituitary Gland	+	+	+	+	+	+	+	+	+	M	9
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10
General Body System											
Tissue NOS			+								1
Genital System											
Coagulating Gland			+								1
Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia							2				1 2.0
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic System											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	M	M	+	+	+	+	+	8
Lymph Node, Mediastinal	M	+	+	+	+	+	+	+	+	+	9
Hemorrhage							2				1 2.0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Male
8000 PPM

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
	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

*TOTALS

Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
Integumentary System											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
Musculoskeletal System											
Bone	+	+	+	+	+	+	+	+	+	+	10
Nervous System											
Brain	+	+	+	+	+	+	+	+	+	+	10
Respiratory System											
Larynx	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage	1	1		1	1	1	1	1			7 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Goblet Cell, Nasopharyn Dct, Hypertrophy	1	1	1	1	1	1	1	1		1	9 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10
Special Senses System											
Lacrimal Gland		+									1
Urinary System											

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Isobutene

CAS Number: 115-11-7

Date Report Requested: 10/15/2014

Time Report Requested: 23:11:52

First Dose M/F: NA / NA

Lab: BNW

F 344/N Rat Male
8000 PPM

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
	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
	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	0	1
	1	2	3	4	5	6	7	8	9	0	
	*TOTALS										
Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

END OF MALE DATA

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Female CONTROL	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	*TOTALS
		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	
		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
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
Hepatodiaphragmatic Nodule		X									1
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

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

Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

**F 344/N Rat Female
CONTROL**

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
	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**

Parathyroid Gland	+	+	+	+	+	M	+	+	+	M	8
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10
General Body System											
NONE											
Genital System											
Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Cyst		2	2		2						3 2.0
Uterus	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic System											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	M	+	+	+	+	+	+	+	M	+	8
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
Integumentary System											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Isobutene

CAS Number: 115-11-7

Date Report Requested: 10/15/2014

Time Report Requested: 23:11:52

First Dose M/F: NA / NA

Lab: BNW

F 344/N Rat Female
CONTROL

	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				
	1	1	1	1	1	1	1	1	1	1				
Skin	+	+	+	+	+	+	+	+	+	+				10
Musculoskeletal System														
Bone	+	+	+	+	+	+	+	+	+	+				10
Nervous System														
Brain	+	+	+	+	+	+	+	+	+	+				10
Respiratory System														
Larynx	+	+	+	+	+	+	+	+	+	+				10
Lung	+	+	+	+	+	+	+	+	+	+				10
Hemorrhage			1	1									1	3 1.0
Nose	+	+	+	+	+	+	+	+	+	+				10
Trachea	+	+	+	+	+	+	+	+	+	+				10
Special Senses System														
NONE														
Urinary System														
Kidney	+	+	+	+	+	+	+	+	+	+				10
Renal Tubule, Mineralization	1		1	1	1		1		1				1	6 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+				10
														*TOTALS

* ..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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Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Female
500 PPM

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
	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

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

Ovary

+

1

Cyst

2

1 2.0

Hematopoietic System

Thymus

+

1

Hemorrhage

2

1 2.0

Integumentary System

NONE

Musculoskeletal System

NONE

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

+ ..Tissue examined microscopically

M ..Missing tissue

1-4 ..Lesion qualified as:

X ..Lesion present

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1) Minimal 3) Moderate

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BLANK ..Not examined microscopically

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Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Female
500 PPM

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
	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

Nervous System

NONE

Respiratory System

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

Goblet Cell, Nasopharynx Dct, Hypertrophy 1 1 1 4 1.0

Special Senses System

NONE

Urinary System

NONE

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

+ ..Tissue examined microscopically

X ..Lesion present

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1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Female 1000 PPM	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	*TOTALS
	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		

Alimentary System

Liver												
Hepatodiaphragmatic Nodule												
Serosa, Fibrosis												
Mesentery												
Fat, Necrosis												

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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1-4 ..Lesion qualified as:

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Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

**F 344/N Rat Female
1000 PPM**

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
	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									

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Nose + + + + + + + + + 10

Goblet Cell, Nasopharyn Dct, Hypertrophy 1 1 1 1 1 1 1 1 8 1.0

Special Senses System

NONE

Urinary System

NONE

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Female
2000 PPM

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
	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					+				+	2
Hepatodiaphragmatic Nodule					X				X	2
Mesentery					+					1
Fat, Necrosis					3					1 3.0

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

Ovary								+	+	2
Cyst								1	1	2 1.0

Hematopoietic System

NONE

Integumentary System

NONE

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Female 2000 PPM	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	*TOTALS
	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		

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Nose + + + + + + + + + 10

Goblet Cell, Nasopharyn Dct, Hypertrophy 1 1 1 1 1 1 1 1 1 8 1.0

Special Senses System

NONE

Urinary System

NONE

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

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 88070-01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 10/15/2014

Test Type: 90-DAY

Test Compound: Isobutene

Time Report Requested: 23:11:52

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 115-11-7

First Dose M/F: NA / NA

Species/Strain: Rat/F 344/N

Lab: BNW

F 344/N Rat Female
4000 PPM

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

*TOTALS

Alimentary System

Liver			+					+		2	
Fibrosis									3		1 3.0
Hepatodiaphragmatic Nodule			X					X			2
Mesentery					+						1
Fibrosis				1							1 1.0

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

Ovary									+		1
Cyst									1		1 1.0

Hematopoietic System

NONE

Integumentary System

NONE

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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	
	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

Musculoskeletal System

NONE

Nervous System

NONE

Respiratory System

Nose + + + + + + + + + 10

Goblet Cell, Nasopharyn Dct, Hypertrophy 1 1 1 1 1 1 1 1 1 7 1.0

Special Senses System

NONE

Urinary System

Kidney + 1

Atrophy 4 1 4.0

Renal Tubule, Mineralization 3 1 3.0

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Lab: BNW

DAY ON TEST	F 344/N Rat Female 8000 PPM										*TOTALS
	0	0	0	0	0	0	0	0	0	0	
ANIMAL ID	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
	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
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
Hepatodiaphragmatic Nodule		X						X			2
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

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

Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10

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F 344/N Rat Female 8000 PPM	DAY ON TEST										*TOTALS
	0	0	0	0	0	0	0	0	0	0	
ANIMAL ID	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	
Parathyroid Gland	+	+	+	+	+	+	+	+	+	+	10
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10
General Body System											
NONE											
Genital System											
Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10
Hematopoietic System											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node							+				1
Lymph Node, Bronchial	M	+	+	+	+	+	+	+	+	+	9
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	M	+	+	+	+	+	9
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
Integumentary System											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10

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8000 PPM

DAY ON TEST	ANIMAL ID										*TOTALS
	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	
	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	
Skin	+	+	+	+	+	+	+	+	+	+	10
Musculoskeletal System											
Bone	+	+	+	+	+	+	+	+	+	+	10
Nervous System											
Brain	+	+	+	+	+	+	+	+	+	+	10
Respiratory System											
Larynx	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage			1			1	1	1			4 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Goblet Cell, Nasopharyn Dct, Hypertrophy	1	1	1	1	1	1	1	1	1	1	10 1.0
Goblet Cell, Respirat Epith, Hypertrophy		1									1 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10
Special Senses System											
NONE											
Urinary System											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Renal Tubule, Mineralization	2		1	1				1			4 1.3
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

** END OF REPORT **

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