

Experiment Number: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:02

First Dose M/F: 01/24/12 / 01/25/12

Lab: BAT

PFOS_Final 1

NTP Study Number: C20617

Lock Date: 04/25/2016

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

Study Gender: Both

TDMSE Version: 3.0.2.3_002

PWG Approval Date: NONE

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0mg/kg/d M	DAY ON TEST												
		0 0 2 9											
ANIMAL ID													* TOTALS
	0 0 3 0 1	0 0 3 0 2	0 0 3 0 3	0 0 3 0 4	0 0 3 0 5	0 0 3 0 6	0 0 3 0 7	0 0 3 0 8	0 0 3 0 9	0 0 3 0 0	0 0 3 0 1	0 0 3 0 0	0 0 3 0 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
Infiltration Cellular, Mixed Cell													1 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	10
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* .. 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

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 Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0mg/kg/d M	DAY ON TEST 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
		9	9	9	9	9	9	9	9	9	9
		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

Heart	+	+	+	+	+	+	+	+	+	+	+	10
Epicardium, Infiltration Cellular, Mononuclear Cell												1 1.0

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic												1 1.0

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 Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0mg/kg/d M	DAY ON TEST 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
		9	9	9	9	9	9	9	9	9	9
		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									
Seminal Vesicle		+ + + + + + + + + +									10
Testes		+ + + + + + + + + +									10
HEMATOPOIETIC SYSTEM											
Bone Marrow		+ + + + + + + + + +									10
Lymph Node, Mandibular		+ + + + + + + +									8
Lymph Node, Mesenteric		+ + + + + + + + + M									9
Spleen		+ + + + + + + + + +									10
Extramedullary Hematopoiesis, Decreased		1									1 1.0
Thymus		+ + + + + M + + + +									9
INTEGUMENTARY SYSTEM											
Mammary Gland		+ + + + + + + + + +									10
Skin		+ + + + + + + + + +									10
MUSCULOSKELETAL SYSTEM											
Bone		+ + + + + + + + + +									10
NERVOUS SYSTEM											
Brain		+ + + + + + + + + +									10

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Lab: BAT

		DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9	9
HARLAN SPRAGUE DAWLEY RATS MALE		ANIMAL ID	0	0	0	0	0	0	0	0	0	0
0mg/kg/d M			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												

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	10
Alveolus, Infiltration Cellular, Mixed Cell												1 1.0
Nose	+	+	+	+	+	+	+	+	+	+	+	10
Respiratory Epithelium, Hyperplasia												3 1.0
Respiratory Epithelium, Inflammation, Chronic Active												4 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	+	10

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	10
Nephropathy, Chronic Progressive	1	1	1	1	1	1	1	1	1	1	1	9 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	10

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First Dose M/F: 01/24/12 / 01/25/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE .312mg/kg/d M	ANIMAL ID	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
		2	2	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9	9	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
		3	3	3	3	3	3	3	3	3	3	3	3
		1	1	1	1	1	1	1	1	1	1	1	2
		1	2	3	4	5	6	7	8	9	9	9	0

* TOTALS

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose

+ + + + + + + + + +

10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney

Nephropathy, Chronic Progressive

+ + + + + + + + + +

10

8 1.0

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

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Lab: BAT

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	0
HARLAN SPRAGUE DAWLEY RATS		0	0	0	0	0	0	0	0	0	0	0
MALE		2	2	2	2	2	2	2	2	2	2	2
.625mg/kg/d M		9	9	9	9	9	9	9	9	9	9	9
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
		3	3	3	3	3	3	3	3	3	3	3
		2	2	2	2	2	2	2	2	2	2	3
		1	2	3	4	5	6	7	8	9	0	

* TOTALS

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Mixed Cell												1 1.0

Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
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CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	10
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GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Testes	+	+	+	+	+	+	+	+	+	+	+	10
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HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	10
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Spleen	+	+	+	+	+	+	+	+	+	+	+	10
Extramedullary Hematopoiesis, Decreased												2 1.0

INTEGUMENTARY 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:
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Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE .625mg/kg/d M	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	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9
		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
		2	2	2	2	2	2	2	2	2	3
		1	2	3	4	5	6	7	8	9	0

* TOTALS

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose

Respiratory Epithelium, Hyperplasia	+	+	+	+	+	+	+	+	+	+	+	10
Respiratory Epithelium, Inflammation, Chronic Active	2	2	2	2	2	2	2	2	2	2	3	6 1.8
	2	2	2	2	2	2	2	2	2	2	3	5 2.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney

Nephropathy, Chronic Progressive	+	+	+	+	+	+	+	+	+	+	+	10
	1	1	1	1	1	1	1	1	1	1	1	6 1.0

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First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	0
HARLAN SPRAGUE DAWLEY RATS		0	0	0	0	0	0	0	0	0	0	0
MALE		2	2	2	2	2	2	2	2	2	2	2
1.25mg/kg/d M		9	9	9	9	9	9	9	9	9	9	9
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
		3	3	3	3	3	3	3	3	3	3	3
		3	3	3	3	3	3	3	3	3	3	4
		1	2	3	4	5	6	7	8	9	0	

* TOTALS

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	+	10
Hepatocyte, Hypertrophy	1							2	1			3 1.3
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	10
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GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Testes	+	+	+	+	+	+	+	+	+	+	+	10
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HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	10
Hypocellularity	1			1	1	1						5 1.0
Spleen	+	+	+	+	+	+	+	+	+	+	+	10
Extramedullary Hematopoiesis, Decreased	1	1		1		1	1	1	1			7 1.0

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First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 1.25mg/kg/d M	DAY ON TEST 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
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		3	3	3	3	3	3	3	3	3	3
		3	3	3	3	3	3	3	3	3	4
		1	2	3	4	5	6	7	8	9	0

* TOTALS

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose	+	+	+	+	+	+	+	+	+	+	+	10
Respiratory Epithelium, Hyperplasia	2	2	1	1								4 1.5
Respiratory Epithelium, Inflammation, Chronic Active	1	1	1	1								5 1.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	10
Nephropathy, Chronic Progressive	1	1	1	1	1	1	1	1	1	1	1	8 1.0

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 Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 2.5mg/kg/d M	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		2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9
		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
		4	4	4	4	4	4	4	4	4	5
		1	2	3	4	5	6	7	8	9	0

* TOTALS

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Mixed Cell					1	1	1					3 1.0
Hepatocyte, Hypertrophy	1	2	1	1	1			1	2	1		8 1.3
Hepatocyte, Vacuolization Cytoplasmic						1	1					2 1.0

Pancreas

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

NONE

ENDOCRINE SYSTEM

Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	10
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GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Testes	+	+	+	+	+	+	+	+	+	+	+	10
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HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	10
Hypocellularity	1	1	1				1					4 1.0

Spleen

+	+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	---	----

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First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 2.5mg/kg/d M	ANIMAL ID	DAY ON TEST											
		0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9
		0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4	0 0 3 4
		1 2	2 3	3 4	4 5	5 6	6 7	7 8	8 9	9 0	0 0	0 0	0 0
		* TOTALS											
		Extramedullary Hematopoiesis, Decreased	1	1	1	1	1	1	1	1	1	1	1

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose	+	+	+	+	+	+	+	+	+	+	+	+	10
Respiratory Epithelium, Fibrosis, Focal									2				1 2.0
Respiratory Epithelium, Inflammation, Granulomatous, Focal								1					1 1.0
Respiratory Epithelium, Ulcer							1						1 1.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	10
Nephropathy, Chronic Progressive	1	1	1	1									4 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: 20617 - 01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 02/06/2018

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 5mg/kg/d M	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	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9
		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
		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
Inflammation, Granulomatous, Focal												1 1.0
Hepatocyte, Hypertrophy	2	2	3	2	2	2	2	2	2	2		10 2.1
Hepatocyte, Vacuolization Cytoplasmic												4 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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+ .. 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: 20617 - 01
 Test Type: 28-DAY
 Route: GAVAGE
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Perfluorooctane Sulfonate
 CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
 Time Report Requested: 12:39:02
 First Dose M/F: 01/24/12 / 01/25/12
 Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 5mg/kg/d M	DAY ON TEST 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
		9	9	9	9	9	9	9	9	9	9
		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
		5	5	5	5	5	5	5	5	5	6
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									
Blood Vessel		+	+	+	+	+	+	+	+	+	10
Heart		+	+	+	+	+	+	+	+	+	10
ENDOCRINE SYSTEM											
Adrenal Cortex		+	+	+	+	+	+	+	+	+	10
Adrenal Medulla		+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	10
Parathyroid Gland		+	M	+	+	+	+	+	M	+	8
Pituitary Gland		+	+	+	+	+	+	+	+	+	10
Thyroid Gland		+	+	+	+	+	+	+	+	+	10
GENERAL BODY SYSTEM											
NONE											
GENITAL SYSTEM											
Epididymis		+	+	+	+	+	+	+	+	+	10
Preputial Gland		+	+	+	+	+	+	+	+	+	10
Prostate		+	+	+	+	+	+	+	+	+	10

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

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Experiment Number: 20617 - 01
 Test Type: 28-DAY
 Route: GAVAGE
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Perfluorooctane Sulfonate
 CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
 Time Report Requested: 12:39:02
 First Dose M/F: 01/24/12 / 01/25/12
 Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 5mg/kg/d M	DAY ON TEST 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
		9	9	9	9	9	9	9	9	9	9
		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
		5	5	5	5	5	5	5	5	5	6
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									
Seminal Vesicle		+	+	+	+	+	+	+	+	+	10
Testes		+	+	+	+	+	+	+	+	+	10
HEMATOPOIETIC SYSTEM											
Bone Marrow		+	+	+	+	+	+	+	+	+	10
Hypocellularity		1	1	1	1	1	1	1	1	1	8 1.0
Lymph Node, Mandibular		+	+	+		+	+	+	+	+	9
Lymph Node, Mesenteric		+	+	+	+	+	+	+	+	+	10
Spleen		+	+	+	+	+	+	+	+	+	10
Extramedullary Hematopoiesis, Decreased		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											

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

+ .. Tissue examined microscopically

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Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	0		
HARLAN SPRAGUE DAWLEY RATS		0	0	0	0	0	0	0	0	0	0	0		
MALE		2	2	2	2	2	2	2	2	2	2	2		
5mg/kg/d M		9	9	9	9	9	9	9	9	9	9	9		
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	* TOTALS	
Brain		0	0	0	0	0	0	0	0	0	0	0	10	
RESPIRATORY SYSTEM														
Lung		+	+	+	+	+	+	+	+	+	+	+	10	
Alveolus, Infiltration Cellular, Mixed Cell		1												1 1.0
Nose		+	+	+	+	+	+	+	+	+	+	+	10	
Trachea		+	+	+	+	+	+	+	+	+	+	+	10	
SPECIAL SENSES SYSTEM														
Eye		+	+	+	+	+	+	+	+	+	+	+	10	
Harderian Gland		+	+	+	+	+	+	+	+	+	+	+	10	
URINARY SYSTEM														
Kidney		+	+	+	+	+	+	+	+	+	+	+	10	
Nephropathy, Chronic Progressive		1	1	1	1	1	1	1	1	1	1	1	5 1.0	
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

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2) Mild 4) Marked

Experiment Number: 20617 - 01
 Test Type: 28-DAY
 Route: GAVAGE
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Perfluorooctane Sulfonate
 CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
 Time Report Requested: 12:39:02
 First Dose M/F: 01/24/12 / 01/25/12
 Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0mg/kg/d F	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	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9
		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
		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
												1 1.0
Degeneration												1 1.0
Inflammation, Chronic Active												
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
Congestion, Diffuse												1 4.0
Hepatocyte, Necrosis, Diffuse												1 4.0
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	10

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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2) Mild 4) Marked

Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0mg/kg/d F	DAY ON TEST													
		0 0 2 9	0 0 2 9											
ANIMAL ID														
	0 0 3 6 1	0 0 3 6 2	0 0 3 6 3	0 0 3 6 4	0 0 3 6 5	0 0 3 6 6	0 0 3 6 7	0 0 3 6 8	0 0 3 6 9	0 0 3 6 0	0 0 3 6 1	0 0 3 6 2	* TOTALS	

CARDIOVASCULAR SYSTEM

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

Infiltration Cellular, Mixed Cell

1 1.0

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE													
------	--	--	--	--	--	--	--	--	--	--	--	--	--

GENITAL SYSTEM

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

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Experiment Number: 20617 - 01
 Test Type: 28-DAY
 Route: GAVAGE
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Perfluorooctane Sulfonate
 CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
 Time Report Requested: 12:39:02
 First Dose M/F: 01/24/12 / 01/25/12
 Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0mg/kg/d F	DAY ON TEST ANIMAL ID													* TOTALS
		0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9	
Uterus Bilateral, Dilation		+ + + + + + + + + +												10 2 2.0
HEMATOPOIETIC SYSTEM														
Bone Marrow		+ + + + + + + + + +												10
Lymph Node, Mandibular		+ + + + + + + + + +												10
Lymph Node, Mesenteric		+ + + + + + + + + +												10
Spleen Extramedullary Hematopoiesis, Decreased		+ + + + + + + + + +												10 2 1.0
Thymus		+ + + + + + + + + +												10
INTEGUMENTARY SYSTEM														
Mammary Gland		+ + + + + + + + + +												10
Skin		+ + + + + + + + + +												10
MUSCULOSKELETAL SYSTEM														
Bone		+ + + + + + + + + +												10
NERVOUS SYSTEM														
Brain		+ + + + + + + + + +												10

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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2) Mild 4) Marked

Experiment Number: 20617 - 01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 02/06/2018

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

	DAY ON TEST												
		0 0 2 9	0 0 2 9	0 0 2 9									
HARLAN SPRAGUE DAWLEY RATS FEMALE 0mg/kg/d F		ANIMAL ID											
		0 0 3 6 1	0 0 3 6 2	0 0 3 6 3	0 0 3 6 4	0 0 3 6 5	0 0 3 6 6	0 0 3 6 7	0 0 3 6 8	0 0 3 6 9	0 0 3 6 0		

* TOTALS

RESPIRATORY SYSTEM

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

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	10
Nephropathy, Chronic Progressive							1			1			2 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	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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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: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE .312mg/kg/d F	DAY ON TEST												
		0 0 2 9	0 0 2 9	0 0 2 9									
ANIMAL ID	0 0 3 7 1	0 0 3 7 2	0 0 3 7 3	0 0 3 7 4	0 0 3 7 5	0 0 3 7 6	0 0 3 7 7	0 0 3 7 8	0 0 3 7 9	0 0 3 8 0	0 0 3 8 0		
	0 0 3 7 1	0 0 3 7 2	0 0 3 7 3	0 0 3 7 4	0 0 3 7 5	0 0 3 7 6	0 0 3 7 7	0 0 3 7 8	0 0 3 7 9	0 0 3 8 0	0 0 3 8 0	* TOTALS	

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	+	+	10
Clear Cell Focus						X							1
Infiltration Cellular, Mixed Cell							1		1		1		3 1.0

Pancreas + + + + + + + + + + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Ovary + + + + + + + + + + + + 10

HEMATOPOIETIC SYSTEM

Bone Marrow + + + + + + + + + + + + 10
Hypocellularity 1 1 2 1.0

Spleen + + + + + + + + + + + + 10

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

+ .. Tissue examined microscopically

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1) Minimal 3) Moderate

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Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE .312mg/kg/d F	DAY ON TEST	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
		9	9	9	9	9	9	9	9	9	9
		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
		7	7	7	7	7	7	7	7	7	8
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									
Extramedullary Hematopoiesis, Decreased		1	1	1							3 1.0

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose

+ + + + + + + + + + 10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney

+ + + + + + + + + + 10

Nephropathy, Chronic Progressive

1 1.0

Renal Tubule, Mineral

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

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BLANK .. Not examined microscopically

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1) Minimal 3) Moderate

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Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
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First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FEMALE | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| .625mg/kg/d F | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 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 |
| Infiltration Cellular, Mixed Cell | 1 | | | | 1 | | | 1 | | | | 3 1.0 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | 10 |

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|----|
| Ovary | + | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|---|----|

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypocellularity | | | | | | | | | | | | 1 1.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Extramedullary Hematopoiesis, Decreased | 1 | | | | | | | 1 | 1 | | | 3 1.0 |

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
.625mg/kg/d F | DAY ON TEST | | | | | | | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|------------------|
| | | 0
0
2
9 | 0
0
2
9 | 0
0
2
9 |
| ANIMAL ID | 0
0
3
8
1 | 0
0
3
8
2 | 0
0
3
8
3 | 0
0
3
8
4 | 0
0
3
8
5 | 0
0
3
8
6 | 0
0
3
8
7 | 0
0
3
8
8 | 0
0
3
8
9 | 0
0
3
8
9 | 0
0
3
8
0 | | |
| | 0
0
3
8
1 | 0
0
3
8
2 | 0
0
3
8
3 | 0
0
3
8
4 | 0
0
3
8
5 | 0
0
3
8
6 | 0
0
3
8
7 | 0
0
3
8
8 | 0
0
3
8
9 | 0
0
3
8
9 | 0
0
3
8
0 | * TOTALS | |

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose

++ + + + + + + + +

10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney

++ + + + + + + + +

10

Nephropathy, Chronic Progressive

Renal Tubule, Mineral

1

1

1

2 1.0

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

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|-----------------|--|
| HARLAN SPRAGUE DAWLEY RATS | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| FEMALE | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| 1.25mg/kg/d F | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | | |
| | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|-------|
| Liver | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Infiltration Cellular, Mixed Cell | 1 | 1 | | 1 | | | | | | | | 3 1.0 |
| Hepatocyte, Cytoplasmic Alteration | | | | | | | 1 | 1 | 1 | | | 3 1.0 |
| Hepatocyte, Hypertrophy | | | | | | | 1 | | | | | 2 1.0 |

Pancreas

| | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|---|----|
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | 10 |
|----------|---|---|---|---|---|---|---|---|---|---|---|----|

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|----|
| Ovary | + | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|---|----|

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypocellularity | | 1 | | | | | | | | | | 1 1.0 |

| | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|----|
| Spleen | + | + | + | + | + | + | + | + | + | + | + | 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: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
1.25mg/kg/d F | DAY ON TEST | 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 |
| | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | | 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 | 4 |
| | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | * TOTALS | | | | | | | | | |
| Extramedullary Hematopoiesis, Decreased | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 1.0 |

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose

+ + + + + + + + + + 10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney

+ + + + + + + + + + 10

Nephropathy, Chronic Progressive

1 1 1 1 1 1 1 1 1 1 3 1.0

Renal Tubule, Mineral

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

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|-----------------|--|
| HARLAN SPRAGUE DAWLEY RATS | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| FEMALE | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| 2.5mg/kg/d F | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | | |
| 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 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|-------|
| Liver | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Infiltration Cellular, Mixed Cell | | | | | | 1 | | | | 1 | | 2 1.0 |
| Hepatocyte, Cytoplasmic Alteration | | | | | | | 1 | 1 | 1 | 1 | 1 | 5 1.0 |
| Hepatocyte, Hypertrophy | | | | | | | 1 | | 1 | 1 | | 3 1.0 |

Pancreas

| | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|---|----|
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | 10 |
|----------|---|---|---|---|---|---|---|---|---|---|---|----|

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|----|
| Ovary | + | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|---|----|

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|-------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypocellularity | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 5 1.0 |

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20617 - 01
Test Type: 28-DAY
Route: GAVAGE
Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Perfluorooctane Sulfonate
CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
Time Report Requested: 12:39:02
First Dose M/F: 01/24/12 / 01/25/12
Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
2.5mg/kg/d F | DAY ON TEST | | | | | | | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|------------------|
| | | 0
0
2
9 | 0
0
2
9 | 0
0
2
9 |
| ANIMAL ID | 0
0
4
0
1 | 0
0
4
0
2 | 0
0
4
0
3 | 0
0
4
0
4 | 0
0
4
0
5 | 0
0
4
0
6 | 0
0
4
0
7 | 0
0
4
0
8 | 0
0
4
0
9 | 0
0
4
0
0 | 0
0
4
0
1 | | |
| | | | | | | | | | | | | | * TOTALS |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Extramedullary Hematopoiesis, Decreased | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |

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

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Respiratory Epithelium, Inflammation, Chronic Active | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 1.0 |

SPECIAL SENSES SYSTEM

NONE

URINARY 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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:02

First Dose M/F: 01/24/12 / 01/25/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
2.5mg/kg/d F | ANIMAL ID | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-----------|-------------|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | | 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 | 4 | 4 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 |
| | | * TOTALS | | | | | | | | | | |

Kidney

Nephropathy, Chronic Progressive

+ + + + + + + + + +

10
1 1.0

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20617 - 01

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Date Report Requested: 02/06/2018

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

| | DAY ON TEST | | | | | | | | | | | | |
|--|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|------------------|
| | | 0
0
2
9 | 0
0
2
9 | 0
0
2
5 | 0
0
2
9 | 0
0
2
9 | 0
0
2
9 |
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
5mg/kg/d F | ANIMAL ID | 0
0
4
1
1 | 0
0
4
1
2 | 0
0
4
1
3 | 0
0
4
1
4 | 0
0
4
1
5 | 0
0
4
1
6 | 0
0
4
1
7 | 0
0
4
1
8 | 0
0
4
1
9 | 0
0
4
1
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 |
| Infiltration Cellular, Mixed Cell | | | | | | | | | | | | 1 1.0 |
| Hepatocyte, Cytoplasmic Alteration | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
| Hepatocyte, Hypertrophy | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 10 1.7 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Hyperkeratosis | | | | | | | | | | | | 1 1.0 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | 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
- 2) Mild
- 3) Moderate
- 4) Marked

Experiment Number: 20617 - 01
 Test Type: 28-DAY
 Route: GAVAGE
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Perfluorooctane Sulfonate
 CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
 Time Report Requested: 12:39:02
 First Dose M/F: 01/24/12 / 01/25/12
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
5mg/kg/d F | DAY ON TEST
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 |
| | | 9 | 9 | 9 | 9 | 5 | 9 | 9 | 9 | 9 | 9 |
| | | 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 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

* TOTALS

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | 10 |

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

| | | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|--|
| NONE | | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|--|

GENITAL SYSTEM

| | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | 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: 20617 - 01
 Test Type: 28-DAY
 Route: GAVAGE
 Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Perfluorooctane Sulfonate
 CAS Number: 1763-23-1

Date Report Requested: 02/06/2018
 Time Report Requested: 12:39:02
 First Dose M/F: 01/24/12 / 01/25/12
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
5mg/kg/d F | 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 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 9 | 9 | 9 | 9 | 5 | 9 | 9 | 9 | 9 | 9 | |
| | | 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 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |
| | | | | | | | | | | | | |
| * TOTALS | | | | | | | | | | | | |
| Bilateral, Dilation | | | | | | | | | | | | |
| 1 1.0 | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Hypocellularity | 1 | 1 | 2 | | 3 | 2 | 2 | 2 | 2 | 1 | | 9 1.8 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Lymph Node, Mesenteric | + | + | + | + | | | + | + | + | + | + | 8 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Extramedullary Hematopoiesis, Decreased | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 10 1.0 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Atrophy | | | | | 3 | | | | | | | 1 3.0 |

INTEGUMENTARY SYSTEM

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

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

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

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 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
5mg/kg/d F | DAY ON TEST | | | | | | | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | 0
0
2
9 | 0
0
2
9 | 0
0
2
5 | 0
0
2
9 |
| ANIMAL ID | | | | | | | | | | | | | * TOTALS |
| | 0
0
4
1
1 | 0
0
4
1
2 | 0
0
4
1
3 | 0
0
4
1
4 | 0
0
4
1
5 | 0
0
4
1
6 | 0
0
4
1
7 | 0
0
4
1
8 | 0
0
4
1
9 | 0
0
4
1
0 | 0
0
4
1
1 | 0
0
4
1
2 | 0
0
4
1
3 |
| | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Inflammation, Granulomatous, Focal | | | | | | | | | | | | | 1 3.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

URINARY SYSTEM

| | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Nephropathy, Chronic Progressive | | | | | | | | | | | | | 2 1.0 |
| Renal Tubule, Mineral | | | | | | | | | | | | | 1 1.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

*** END OF REPORT ***

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