

**Experiment Number:** 20615 - 01  
**Test Type:** 28-DAY  
**Route:** GAVAGE  
**Species/Strain:** RATS/HSD

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Perfluorodecanoic Acid  
**CAS Number:** 335-76-2

**Date Report Requested:** 02/06/2018  
**Time Report Requested:** 12:37:08  
**First Dose M/F:** 02/07/12 / 02/08/12  
**Lab:** BAT

PFDA\_Final 1

**NTP Study Number:** C20615  
**Lock Date:** 01/22/2016  
**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	0	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
		2	2	2	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9	9	9	9
		8	8	8	8	8	8	8	8	8	8	8	8	8
		5	5	5	5	5	5	5	5	5	5	5	5	5
		1	2	3	4	5	6	7	8	9	0	0	0	0
<b>* TOTALS</b>														

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	1							3 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

X .. Lesion present

I .. Insufficient tissue

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	ANIMAL ID	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	
		8	8	8	8	8	8	8	8	8	8	
		5	5	5	5	5	5	5	5	5	6	
		1	2	3	4	5	6	7	8	9	0	
<b>* TOTALS</b>												

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

**ENDOCRINE SYSTEM**

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	+	+	+	10
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

**GENERAL BODY SYSTEM**

NONE											
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**GENITAL SYSTEM**

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Granuloma Sperm							3				1 3.0
Duct, Exfoliated Germ Cell									1		1 1.0
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0mg/kg/d M	DAY ON TEST										* TOTALS
	009	009	009	009	009	009	009	009	009	009	
ANIMAL ID	00851	00852	00853	00854	00855	00856	00857	00858	00859	00860	
	Testes	+	+	+	+	+	+	+	+	+	+
Germinal Epithelium, Degeneration										1	1 1.0
<b>HEMATOPOIETIC SYSTEM</b>											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
<b>INTEGUMENTARY SYSTEM</b>											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
<b>MUSCULOSKELETAL SYSTEM</b>											
Bone	+	+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>											
Brain	+	+	+	+	+	+	+	+	+	+	10
<b>RESPIRATORY SYSTEM</b>											

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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	0		
	2	2	2	2	2	2	2	2	2	2	0		
	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		
	8	8	8	8	8	8	8	8	8	8	8		
	5	5	5	5	5	5	5	5	5	5	6		
	1	2	3	4	5	6	7	8	9	0	0		
<b>* TOTALS</b>													
Lung	+	+	+	+	+	+	+	+	+	+	10		
Infiltration Cellular, Mixed Cell					1							1	1.0
Nose	+	+	+	+	+	+	+	+	+	+	10		
Respiratory Epithelium, Degeneration							1			1		2	1.0
Respiratory Epithelium, Hyperplasia							1			1		2	1.0
Respiratory Epithelium, Inflammation, Chronic Active							2			1		2	1.5
<b>SPECIAL SENSES SYSTEM</b>													
Eye	+	+	+	+	+	+	+	+	+	+	10		
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10		
<b>URINARY SYSTEM</b>													
Kidney	+	+	+	+	+	+	+	+	+	+	10		
Nephropathy, Chronic Progressive		1	2		1		1	1		1		6	1.2
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10		

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Lab: BAT

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	HARLAN SPRAGUE DAWLEY RATS MALE 0.156mg/kg/d M	ANIMAL ID	0	0	0	0	0	0	0	0	0
	2	2	2	2	2	2	2	2	2	2			8	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9	9	9			6	6	6	6	6	6	6	7	0
													1	2	3	4	5	6	7	8	9
											<b>* TOTALS</b>										

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
Hepatocyte, Necrosis						4					1 4.0
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	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
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<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>0.156mg/kg/d M</b>	DAY ON TEST	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	
		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	
		8	8	8	8	8	8	8	8	8	
		6	6	6	6	6	6	6	6	7	
		1	2	3	4	5	6	7	8	9	
											<b>* TOTALS</b>

Spleen	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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Thymus	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Respiratory Epithelium, Degeneration					1	1		1		1		<b>4 1.0</b>
Respiratory Epithelium, Inflammation, Chronic Active					1	1	1	1		1		<b>5 1.0</b>

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Nephropathy, Chronic Progressive			1	1	1	1		1	1	1		<b>8 1.0</b>

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Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>0.312mg/kg/d M</b>	DAY ON TEST	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	
		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	
		8	8	8	8	8	8	8	8	8	
		7	7	7	7	7	7	7	7	8	
		1	2	3	4	5	6	7	8	9	
											<b>* TOTALS</b>

**ALIMENTARY SYSTEM**

Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

Thyroid Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Testes	+	+	+	+	+	+	+	+	+	+	<b>10</b>
--------	---	---	---	---	---	---	---	---	---	---	-----------

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+	<b>10</b>

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<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>0.312mg/kg/d M</b>	DAY ON TEST	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
		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
		8	8	8	8	8	8	8	8	8
		7	7	7	7	7	7	7	7	8
		1	2	3	4	5	6	7	8	9

\* TOTALS

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

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Nose	+	+	+	+	+	+	+	+	+	+
Respiratory Epithelium, Degeneration			1				1	1	1	1
Respiratory Epithelium, Hyperplasia			1				2	1	2	1
Respiratory Epithelium, Inflammation, Chronic Active			1				1	1	1	1

10

5 1.0

5 1.4

5 1.0

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+
Nephropathy, Chronic Progressive	1		1			1	1			1

10

5 1.0

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0	HARLAN SPRAGUE DAWLEY RATS MALE 0.625mg/kg/d M	ANIMAL ID	0	0	0	0	0	0	0	0	0		
	2	2	2	2	2	2	2	2	2	2			8	8	8	8	8	8	8	8	8		
	9	9	9	9	9	9	9	9	9	9			8	8	8	8	8	8	8	8	8		
													1	2	3	4	5	6	7	8	9	0	<b>* TOTALS</b>

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Hepatocyte, Cytoplasmic Alteration	1	1	1	1	1	1	1	1	1	2	<b>10 1.1</b>
Hepatocyte, Hypertrophy									1	2	<b>2 1.5</b>
Hepatocyte, Necrosis	1										<b>1 1.0</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

Parathyroid Gland			M	M				M			<b>0</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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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			
<b>HARLAN SPRAGUE DAWLEY RATS</b>	2	2	2	2	2	2	2	2	2	2			
<b>MALE</b>	9	9	9	9	9	9	9	9	9	9			
<b>0.625mg/kg/d M</b>	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			
	8	8	8	8	8	8	8	8	8	9			
	1	2	3	4	5	6	7	8	9	0			<b>* TOTALS</b>
Testes	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>HEMATOPOIETIC SYSTEM</b>													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Thymus	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>INTEGUMENTARY SYSTEM</b>													
NONE													
<b>MUSCULOSKELETAL SYSTEM</b>													
NONE													
<b>NERVOUS SYSTEM</b>													
NONE													
<b>RESPIRATORY SYSTEM</b>													
Nose	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Respiratory Epithelium, Degeneration						1		1	1	1			<b>4 1.0</b>
Respiratory Epithelium, Hyperplasia						3		1	2	1			<b>4 1.8</b>
Respiratory Epithelium, Inflammation, Chronic Active						2		1	1	2			<b>4 1.5</b>
<b>SPECIAL SENSES SYSTEM</b>													

\* .. 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>0.625mg/kg/d M</b>	DAY ON TEST	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
		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
		8	8	8	8	8	8	8	8	8
		8	8	8	8	8	8	8	8	9
		1	2	3	4	5	6	7	8	9

\* TOTALS

NONE

URINARY SYSTEM

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

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

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2) Mild 4) Marked

Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

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

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10	
Hepatocyte, Cytoplasmic Alteration	4	4	4	4	4	4	4	4	4	4		10 4.0
Hepatocyte, Hypertrophy	3	3	3	3	4	3	3	3	2	4		10 3.1
Hepatocyte, Necrosis			1	1	1							3 1.0
Hepatocyte, Vacuolization Cytoplasmic	2	2	1	2	3	2	2		1	2		9 1.9
Pancreas	+	+	+	+	+	+	+	+	+	+	10	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10	
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10	

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

Parathyroid Gland			M		M		M		M		0
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ .. Tissue examined microscopically  
X .. Lesion present  
I .. Insufficient tissue

M .. Missing tissue  
A .. Autolysis precludes evaluation  
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:  
1) Minimal 3) Moderate  
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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

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	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	
	8	8	8	8	8	8	8	8	8	9	9	
	9	9	9	9	9	9	9	9	9	0	0	
	1	2	3	4	5	6	7	8	9	0	0	
											<b>* TOTALS</b>	

Epididymis	+	+	+	+	+	+	+	+	+	+		<b>10</b>
Preputial Gland	M										<b>0</b>	
Testes	+	+	+	+	+	+	+	+	+	+		<b>10</b>
Interstitial Cell, Atrophy	2			2	2	2	2	1	1	1		<b>8 1.6</b>

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+		<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+		<b>10</b>
Thymus	+	+	+	+	+	+	+	+	+	+		<b>10</b>
Lymphocyte, Apoptosis		1	1		1	2	2	1	1	1		<b>8 1.3</b>

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY 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:

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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

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

Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
------	---	---	---	---	---	---	---	---	---	---	-----------

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Nephropathy, Chronic Progressive	1	1				1	1	1	1	1	<b>7 1.0</b>

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

1-4 .. Lesion qualified as:  
1) Minimal 3) Moderate  
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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	
<b>HARLAN SPRAGUE DAWLEY RATS MALE</b>		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	
	<b>2.5mg/kg/d M</b>		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
<b>* TOTALS</b>												

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Infiltration Cellular, Mixed Cell						1		1			<b>2 1.0</b>
Hepatocyte, Cytoplasmic Alteration	2	4	4	4	4	4	4	4	4	4	<b>10 3.8</b>
Hepatocyte, Hypertrophy	4	4	4	4	4	4	4	4	4	4	<b>10 4.0</b>
Hepatocyte, Necrosis					1						<b>1 1.0</b>
Hepatocyte, Vacuolization Cytoplasmic	3	3	3	2	3	2	3	4	2	4	<b>10 2.9</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation			2		2						<b>2 2.0</b>
Ulcer					1						<b>1 1.0</b>

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

1-4 .. Lesion qualified as:  
 1) Minimal 3) Moderate  
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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

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		
<b>HARLAN SPRAGUE DAWLEY RATS</b>	2	2	2	2	2	2	2	2	2	2		
<b>MALE</b>	9	9	9	9	9	9	9	9	9	9		
<b>2.5mg/kg/d M</b>												
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		
	<b>* TOTALS</b>											
Epithelium, Hyperplasia	3		2								<b>2 2.5</b>	
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
<b>CARDIOVASCULAR SYSTEM</b>												
Blood Vessel	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Heart	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
<b>ENDOCRINE SYSTEM</b>												
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Parathyroid Gland	+	+	+	+	+	+	M	+	M	+	<b>8</b>	
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
<b>GENERAL BODY SYSTEM</b>												
NONE												
<b>GENITAL SYSTEM</b>												
Epididymis	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Hypospermia	4											<b>1 4.0</b>
Duct, Exfoliated Germ Cell	4		2				1 1				<b>4 2.0</b>	

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+ .. 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

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			
<b>HARLAN SPRAGUE DAWLEY RATS</b>	2	2	2	2	2	2	2	2	2	2			
<b>MALE</b>	9	9	9	9	9	9	9	9	9	9			
<b>2.5mg/kg/d M</b>	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			
												<b>* TOTALS</b>	
Preputial Gland	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Prostate	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Testes	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Germinal Epithelium, Degeneration		4		1				1	1				<b>4 1.8</b>
Interstitial Cell, Atrophy	1	2	1	2	1	1	2	2	2	1			<b>10 1.5</b>
Seminiferous Tubule, Spermatid Retention		3		2				2	1				<b>4 2.0</b>
<b>HEMATOPOIETIC SYSTEM</b>													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Hypocellularity	3	3	2	3	3	1	1	3	3	3			<b>10 2.5</b>
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Thymus	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Atrophy	3	4		4	1	1	1	4	3	4			<b>9 2.8</b>
<b>INTEGUMENTARY SYSTEM</b>													
Mammary Gland	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Skin	+	+	+	+	+	+	+	+	+	+			<b>10</b>

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+ .. Tissue examined microscopically

X .. Lesion present

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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>2.5mg/kg/d M</b>	DAY ON TEST	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	
		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	
		9	9	9	9	9	9	9	9	9	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
											<b>* TOTALS</b>

**MUSCULOSKELETAL SYSTEM**

Bone	+	+	+	+	+	+	+	+	+	+	<b>10</b>
------	---	---	---	---	---	---	---	---	---	---	-----------

**NERVOUS SYSTEM**

Brain	+	+	+	+	+	+	+	+	+	+	<b>10</b>
-------	---	---	---	---	---	---	---	---	---	---	-----------

**RESPIRATORY SYSTEM**

Lung	+	+	+	+	+	+	+	+	+	+	<b>10</b>
------	---	---	---	---	---	---	---	---	---	---	-----------

Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
------	---	---	---	---	---	---	---	---	---	---	-----------

**SPECIAL SENSES SYSTEM**

Eye	+	+	+	+	+	+	+	+	+	+	<b>10</b>
-----	---	---	---	---	---	---	---	---	---	---	-----------

Harderian Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
-----------------	---	---	---	---	---	---	---	---	---	---	-----------

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Nephropathy, Chronic Progressive	1	1				1					<b>3 1.0</b>

Urinary Bladder	+	+	+	+	+	+	+	+	M	+	<b>9</b>
-----------------	---	---	---	---	---	---	---	---	---	---	----------

\*\*\* 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

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

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Infiltration Cellular, Mixed Cell		1	1		1						<b>3 1.0</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR SYSTEM**

Blood Vessel	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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\* .. 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

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

\* TOTALS

Heart	+	+	+	+	+	+	+	+	+	+	10		
Epicardium, Fibrosis								1				1	1.0
Epicardium, Infiltration Cellular, Mixed Cell								2				1	2.0

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10		
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10		
Parathyroid Gland	M	+	+	+	+	+	M	+	M	+	7		
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10		
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10		

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10		
Ovary	+	+	+	+	+	+	+	+	+	+	10		
Uterus	+	+	+	+	+	+	+	+	+	+	10		
Bilateral, Dilation						2	2					2	2.0

HEMATOPOIETIC 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  
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1-4 .. Lesion qualified as:  
1) Minimal 3) Moderate  
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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0mg/kg/d F	DAY ON TEST										* 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	
ANIMAL ID	0 0 9 1 1	0 0 9 1 2	0 0 9 1 3	0 0 9 1 4	0 0 9 1 5	0 0 9 1 6	0 0 9 1 7	0 0 9 1 8	0 0 9 1 9	0 0 9 2 0	
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
<b>INTEGUMENTARY SYSTEM</b>											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
<b>MUSCULOSKELETAL SYSTEM</b>											
Bone	+	+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>											
Brain	+	+	+	+	+	+	+	+	+	+	10
<b>RESPIRATORY SYSTEM</b>											
Lung	+	+	+	+	+	+	+	+	+	+	10
Interstitial, Inflammation, Granulomatous		1									1 1.0
Serosa, Fibrosis							2				1 2.0
Nose	+	+	+	+	+	+	+	+	+	+	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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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

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			
<b>HARLAN SPRAGUE DAWLEY RATS</b>	2	2	2	2	2	2	2	2	2	2			
<b>FEMALE</b>	9	9	9	9	9	9	9	9	9	9			
<b>0mg/kg/d F</b>	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			
	1	1	1	1	1	1	1	1	1	2			
	1	2	3	4	5	6	7	8	9	0			<b>* TOTALS</b>
Respiratory Epithelium, Inflammation, Chronic Active	1												<b>1 1.0</b>
Trachea	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>SPECIAL SENSES SYSTEM</b>													
Eye	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Harderian Gland	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>URINARY SYSTEM</b>													
Kidney	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Nephropathy, Chronic Progressive	1	1		1	1	1							<b>5 1.0</b>
Urinary Bladder	+	+	+	+	+	+	+	+	+	+			<b>10</b>

\* .. 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0.156mg/kg/d F	DAY ON TEST	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	
		9	9	9	9	9	9	9	9	9	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

**ALIMENTARY SYSTEM**

Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

Parathyroid Gland			M			M	M		M		<b>0</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Ovary	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Thymus	+	+	+	+	+	+	+	+	+	+	<b>10</b>

\* .. 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>FEMALE</b> <b>0.156mg/kg/d F</b>	DAY ON TEST	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	
		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	
		9	9	9	9	9	9	9	9	9	
		2	2	2	2	2	2	2	2	3	
		1	2	3	4	5	6	7	8	9	

\* TOTALS

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Nose	+	+	+	+	+	+	+	+	+	+	10	
Respiratory Epithelium, Degeneration			1									1 1.0
Respiratory Epithelium, Hyperplasia			2									1 2.0
Respiratory Epithelium, Inflammation, Chronic Active			1		1							2 1.0

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	10	
Nephropathy, Chronic Progressive	1		1			1	1	1	1	1		7 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>FEMALE</b> <b>0.312mg/kg/d F</b>	DAY ON TEST	0	0	0	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
		2	2	2	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9	9	9	9
		9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3
		1	2	3	4	5	6	7	8	9	0			
<b>* TOTALS</b>														

**ALIMENTARY SYSTEM**

Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

Parathyroid Gland					M	M	M		M						<b>0</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Lymph Node					+										<b>1</b>
Mediastinal, Inflammation, Granulomatous					4										<b>1 4.0</b>

\* .. 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

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	
HARLAN SPRAGUE DAWLEY RATS FEMALE	2	2	2	2	2	2	2	2	2	2	
	9	9	9	9	9	9	9	9	9	9	
0.312mg/kg/d F	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	4	
	1	2	3	4	5	6	7	8	9	0	
											* TOTALS
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
<b>INTEGUMENTARY SYSTEM</b>											
NONE											
<b>MUSCULOSKELETAL SYSTEM</b>											
NONE											
<b>NERVOUS SYSTEM</b>											
NONE											
<b>RESPIRATORY SYSTEM</b>											
Nose	+	+	+	+	+	+	+	+	+	+	10
<b>SPECIAL SENSES SYSTEM</b>											
NONE											
<b>URINARY SYSTEM</b>											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Nephropathy, Chronic Progressive	1	1	1				1	1		1	6 1.0

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

+ .. Tissue examined microscopically

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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0.625mg/kg/d F	DAY ON TEST	0	0	0	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
		2	2	2	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9	9	9	9
		4	4	4	4	4	4	4	4	4	4	4	5	5
		1	2	3	4	5	6	7	8	8	9	9	0	0
<b>* TOTALS</b>														

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Hepatocyte, Cytoplasmic Alteration	1	1		1	1	1	1	1						8 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

Parathyroid Gland						M			M					0
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	10
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HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	10
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

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Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>FEMALE</b> <b>0.625mg/kg/d F</b>	DAY ON TEST	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	
		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	
		9	9	9	9	9	9	9	9	9	
		4	4	4	4	4	4	4	4	5	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

Thymus	+	+	+	+	+	+	+	+	+	+	<b>10</b>
--------	---	---	---	---	---	---	---	---	---	---	-----------

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Respiratory Epithelium, Inflammation, Chronic Active							1	1		1	<b>3 1.0</b>

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Nephropathy, Chronic Progressive			1		1	1			1	1	1	<b>6 1.0</b>

\* .. 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: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

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
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2	2	2	2	2
		9	9	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	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5	5	5	6	6
		1	2	3	4	5	6	7	8	9	9	9	9	0	0
<b>* TOTALS</b>															

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Mixed Cell				1											1 1.0
Hepatocyte, Cytoplasmic Alteration	1	1	1	1	1	1	2	2	1	2					10 1.3
Hepatocyte, Hypertrophy	1	1		1	1		1	1	1	2					8 1.1
Hepatocyte, Necrosis										1					1 1.0
Hepatocyte, Vacuolization Cytoplasmic										1					1 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

Parathyroid Gland																0
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC 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

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20615 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorodecanoic Acid

CAS Number: 335-76-2

Date Report Requested: 02/06/2018

Time Report Requested: 12:37:08

First Dose M/F: 02/07/12 / 02/08/12

Lab: BAT

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		
<b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b>	2	2	2	2	2	2	2	2	2	2		
<b>1.25mg/kg/d F</b>	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		
	9	9	9	9	9	9	9	9	9	9		
	5	5	5	5	5	5	5	5	5	6		
	1	2	3	4	5	6	7	8	9	0		
											<b>* TOTALS</b>	

Bone Marrow	+	+	+	+	+	+	+	+	+	+		<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+		<b>10</b>
Thymus	+	+	+	+	+	+	+	+	+	+		<b>10</b>

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Nose	+	+	+	+	+	+	+	+	+	+		<b>10</b>	
Respiratory Epithelium, Inflammation, Chronic Active			1	1								<b>2 1.0</b>	

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+		<b>10</b>
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		0	0	0	0	0	0	0	0	0	
<b>HARLAN SPRAGUE DAWLEY RATS</b>	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		2	2	2	2	2	2	2	2	2	
		9	9	9	9	9	9	9	9	9	
	<b>FEMALE</b>										
<b>1.25mg/kg/d F</b>		0	0	0	0	0	0	0	0	0	
	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		5	5	5	5	5	5	5	5	6	
	1	2	3	4	5	6	7	8	9	0	
<b>* TOTALS</b>											
Nephropathy, Chronic Progressive		1	1	1		1			1		
										<b>5 1.0</b>	

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Lab: BAT

DAY ON TEST		0	0	0	0	0	0	0	0	0	
<b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b>	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	
	<hr/>										
<b>2.5mg/kg/d F</b>	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	
	6	6	6	6	6	6	6	6	6	7	
	1	2	3	4	5	6	7	8	9	0	
<b>* TOTALS</b>											

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Periesophageal Tissue, Inflammation, Granulomatous							3					<b>1 3.0</b>
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Infiltration Cellular, Mixed Cell	1			1								<b>2 1.0</b>
Hepatocyte, Cytoplasmic Alteration	1	2	1	2	2	2	1	2	2	1		<b>10 1.6</b>
Hepatocyte, Hypertrophy	3	2	3	3	3	3	3	3	3	3		<b>10 2.9</b>
Hepatocyte, Necrosis						1		1	1	1		<b>4 1.0</b>
Hepatocyte, Vacuolization Cytoplasmic	4	4	3	3	3	3	3	3	3	3		<b>10 3.2</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>	

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Lab: BAT

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

Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>
--------------------	---	---	---	---	---	---	---	---	---	---	-----------

**CARDIOVASCULAR SYSTEM**

Blood Vessel	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Heart	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Epicardium, Inflammation, Granulomatous	3						2				<b>2 2.5</b>

**ENDOCRINE SYSTEM**

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Parathyroid Gland	+	M	+	M	M	+	M	+	+	+	<b>6</b>
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**GENERAL BODY SYSTEM**

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

**GENITAL SYSTEM**

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Ovary	+	+	+	+	+	+	+	+	+	+	<b>10</b>

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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			
<b>HARLAN SPRAGUE DAWLEY RATS</b>	2	2	2	2	2	2	2	2	2	2			
<b>FEMALE</b>	9	9	9	9	9	9	9	9	9	9			
<b>2.5mg/kg/d F</b>	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			
	6	6	6	6	6	6	6	6	6	7			
	1	2	3	4	5	6	7	8	9	0			
											<b>* TOTALS</b>		
Uterus	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>HEMATOPOIETIC SYSTEM</b>													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Hypocellularity	2	3	3	1	3	3	2	3	2	3		<b>10</b>	<b>2.5</b>
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Thymus	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Atrophy	1	4	4		1	3		3	2	4		<b>8</b>	<b>2.8</b>
<b>INTEGUMENTARY SYSTEM</b>													
Mammary Gland	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Skin	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>MUSCULOSKELETAL SYSTEM</b>													
Bone	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>NERVOUS SYSTEM</b>													
Brain	+	+	+	+	+	+	+	+	+	+			<b>10</b>

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HARLAN SPRAGUE DAWLEY RATS FEMALE 2.5mg/kg/d F	DAY ON TEST	0	0	0	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
		2	2	2	2	2	2	2	2	2	2	2	2	2
		9	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	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9
		6	6	6	6	6	6	6	6	6	6	7	7	7
		1	2	3	4	5	6	7	8	9	0	0	0	0
													<b>* TOTALS</b>	

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Bronchiole, Inflammation, Granulomatous								2						1 2.0
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	10

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

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

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

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