

**Experiment Number:** 04049 - 01

**Test Type:** 28-DAY

**Route:** GAVAGE

**Species/Strain:** RATS/HSD

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

Perfluorononanoic Acid

**CAS Number:** 375-95-1

**Date Report Requested:** 02/06/2018

**Time Report Requested:** 12:36:11

**First Dose M/F:** 02/02/12 / 02/03/12

**Lab:** BAT

PFNA\_Final 1

**NTP Study Number:** C04049  
**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 0 mg/kg/d M	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	
		2	2	2	2	2	2	2	2	2	2	
		9	9	9	9	9	9	9	9	9	9	
		7	7	7	7	7	7	7	7	7	7	
		0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0	
											<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			2 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  
M .. Missing tissue  
A .. Autolysis precludes evaluation  
BLANK .. Not examined microscopically  
1-4 .. Lesion qualified as:  
1) Minimal 3) Moderate  
2) Mild 4) Marked

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Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>0 mg/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	
		7	7	7	7	7	7	7	7	7	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
											<b>* TOTALS</b>

Heart	+	+	+	+	+	+	+	+	+	<b>10</b>
Infiltration Cellular, Mixed Cell							1	1		<b>2 1.0</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**

Epididymis	+	+	+	+	+	+	+	+	+	<b>10</b>
Preputial Gland	+	+	+	+	+	+	+	+	+	<b>10</b>
Prostate	+	+	+	+	+	+	+	+	+	<b>10</b>
Seminal Vesicle	+	+	+	+	+	+	+	+	+	<b>10</b>
Testes	+	+	+	+	+	+	+	+	+	<b>10</b>

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X .. Lesion present

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0 mg/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
		7	7	7	7	7	7	7	7	7	7	7	7	7
		0	0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0			
													<b>* TOTALS</b>	

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	+	+	+	10

INTEGUMENTARY SYSTEM

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

MUSCULOSKELETAL SYSTEM

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

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

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Mixed Cell		1		1				1						3 1.0

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Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

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>0 mg/kg/d M</b>	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	7			
	0	0	0	0	0	0	0	0	0	1			
	1	2	3	4	5	6	7	8	9	0			
											<b>* TOTALS</b>		
Nose	+	+	+	+	+	+	+	+	+	+		<b>10</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	2	1	1	1				<b>8 1.1</b>
Urinary Bladder	+	+	+	+	+	+	+	+	+	+		<b>10</b>	

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

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

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10	
Hepatocyte, Cytoplasmic Alteration	1	1	2	1	1	1	2	2	2	2	10	1.5
Hepatocyte, Hypertrophy			2	1	1		2	2	4	4	7	2.3
Pancreas	+	+	+	+	+	+	+	+	+	+	10	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10	

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

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

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

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+ .. Tissue examined microscopically  
X .. Lesion present  
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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	
		7	7	7	7	7	7	7	7	7	
		1	1	1	1	1	1	1	1	2	
		1	2	3	4	5	6	7	8	9	
											<b>* TOTALS</b>

**URINARY SYSTEM**

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

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+ .. Tissue examined microscopically

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

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Infiltration Cellular, Mixed Cell			1								<b>1 1.0</b>
Hepatocyte, Cytoplasmic Alteration	4	4	4	4	4	4	4	4	3	2	<b>10 3.7</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		2	1	1	1		1	3			<b>6 1.5</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

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

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Testes	+	+	+	+	+	+	+	+	+	+	<b>10</b>

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+ .. Tissue examined microscopically

X .. Lesion present

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 1.25 mg/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	
		7	7	7	7	7	7	7	7	7	
		2	2	2	2	2	2	2	2	3	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

Interstitial Cell, Atrophy

1

1 1.0

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Nose	+	+	+	+	+	+	+	+	+	+	10
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SPECIAL SENSES SYSTEM

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

+ .. Tissue examined microscopically

X .. Lesion present

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Lab: BAT

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

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Nephropathy, Chronic Progressive	1			1		1		1		1	<b>5 1.0</b>

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+ .. Tissue examined microscopically

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 2.5 mg/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	
		7	7	7	7	7	7	7	7	7	
		3	3	3	3	3	3	3	3	3	
		1	2	3	4	5	6	7	8	9	
											<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>
Hepatocyte, Cytoplasmic Alteration	4	4	4	4	4	4	4	4	4	4	<b>10 4.0</b>
Hepatocyte, Hypertrophy	4	4	4	4	4	4	4	4	4	4	<b>10 4.0</b>
Hepatocyte, Necrosis	1	2			1	1				1	<b>5 1.2</b>
Hepatocyte, Vacuolization Cytoplasmic	4	4		4	4	4	3	4	4	2	<b>9 3.7</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Chronic Active			2				2	2	2	2	<b>5 2.0</b>
Ulcer								1		1	<b>2 1.0</b>
Epithelium, Hyperplasia	1	3					2	2	4	2	<b>6 2.3</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: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

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

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 2.5 mg/kg/d M	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 7 3 1	0 0 7 3 2	0 0 7 3 3	0 0 7 3 4	0 0 7 3 5	0 0 7 3 6	0 0 7 3 7	0 0 7 3 8	0 0 7 3 9	0 0 7 3 4	
	Stomach, Glandular	+	+	+	+	+	+	+	+	+	+
<b>CARDIOVASCULAR SYSTEM</b>											
Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10
<b>ENDOCRINE SYSTEM</b>											
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	M	+	+	M	+	+	+	+	+	7
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10
<b>GENERAL BODY SYSTEM</b>											
NONE											
<b>GENITAL SYSTEM</b>											
Epididymis	+	+	+	+	+	+	+	+	+	+	10
Hypospermia	2									3	2 2.5
Duct, Exfoliated Germ Cell	3	2			2	3			2	4	6 2.7

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

Preputial Gland	+ + + + + + + + + +										10
Prostate	+ + + + + + + + + +										10
Seminal Vesicle	+ + + + + + + + + +										10
Testes	+ + + + + + + + + +										10
Germinal Epithelium, Degeneration	2 1 2 2 2 2 1 2 2 4										6 2.2
Interstitial Cell, Atrophy	2 2 1 1 2 2 2 1 2 2										10 1.7
Seminiferous Tubule, Spermatid Retention	3 3 3 3 3 3 2 3										6 2.8

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+ + + + + + + + + +										10
Hypocellularity	3 3 3 4 3 4 4 3 3 4										10 3.4
Lymph Node, Mandibular	+ + + + + + + + + +										10
Atrophy											2 1.5
Lymph Node, Mesenteric	+ + + + + + + + + +										10
Atrophy	2 4 3										3 3.0
Spleen	+ + + + + + + + + +										10
Thymus	+ + + + + + + + + +										10
Atrophy	4 4 2 2 4 4 3 2 4 4										10 3.3

**INTEGUMENTARY SYSTEM**

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

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HARLAN SPRAGUE DAWLEY RATS MALE 2.5 mg/kg/d M	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 7 3 1	0 0 7 3 2	0 0 7 3 3	0 0 7 3 4	0 0 7 3 5	0 0 7 3 6	0 0 7 3 7	0 0 7 3 8	0 0 7 3 9	0 0 7 3 4	
Skin	+	+	+	+	+	+	+	+	+	+	10
<b>MUSCULOSKELETAL SYSTEM</b>											
Bone	+	+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>											
Brain	+	+	+	+	+	+	+	+	+	+	10
<b>RESPIRATORY SYSTEM</b>											
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10
<b>SPECIAL SENSES SYSTEM</b>											
Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
<b>URINARY SYSTEM</b>											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Nephropathy, Chronic Progressive	1	1	1			1		1		1	6 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 5 mg/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		7	7	7	7	7	7	7	7	7		
		4	5	4	9	4	5	9	5	6	4		4	4	4	4	4	4	4	4	5	
												1	2	3	4	5	6	7	8	9	0	<b>* TOTALS</b>

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+												<b>10</b>	
Intestine Large, Cecum	+	+	+	+	+	+	+	M	+	+													<b>9</b>
Intestine Large, Colon	M	+	+	+	+	+	+	M	+	+													<b>8</b>
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+													<b>10</b>
Intestine Small, Duodenum	M	+	+	+	+	+	+	M	+	+													<b>8</b>
Intestine Small, Ileum	+	+	+	+	+	+	+	M	+	+													<b>9</b>
Intestine Small, Jejunum	+	+	+	+	+	+	+	M	+	+													<b>9</b>
Liver	+	+	+	+	+	+	+	M	+	+													<b>9</b>
Infiltration Cellular, Mixed Cell								1															<b>1 1.0</b>
Hepatocyte, Cytoplasmic Alteration	2	4	1	4	3	2	4		4	4													<b>9 3.1</b>
Hepatocyte, Hypertrophy	4	4	2	4	3	3	4		4	4													<b>9 3.6</b>
Hepatocyte, Necrosis			2	2	2	2			2	2													<b>6 2.0</b>
Pancreas	M	+	+	+	+	+	+	M	+	+													<b>8</b>
Salivary Glands	+	M	+	+	+	+	+	+	+	+													<b>9</b>
Stomach, Forestomach	M	+	+	+	+	+	+	M	+	+													<b>8</b>
Epithelium, Hyperplasia		1	2			1	2		2	3													<b>6 1.8</b>
Stomach, Glandular	+	+	+	+	+	+	+	M	+	+													<b>9</b>

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

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

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

**CARDIOVASCULAR SYSTEM**

Blood Vessel	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Heart	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**ENDOCRINE SYSTEM**

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Parathyroid Gland	+	+	+	+	+	+	M	+	+	+	<b>9</b>
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Epididymis	M	+	+	+	+	+	+	+	+	+	<b>9</b>
Hypospermia		3	3	4	4	4	3	4	4	4	<b>9 3.7</b>
Duct, Exfoliated Germ Cell		3	3	4	4	4	3	4	4	4	<b>9 3.7</b>
Epithelium, Apoptosis		2	2	2	3	2		2	1	2	<b>8 2.0</b>
Epithelium, Exfoliated Germ Cell						2					<b>1 2.0</b>

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Species/Strain: RATS/HSD

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Perfluorononanoic Acid

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Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

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>	4	5	4	9	4	5	9	5	6	4			
<b>5 mg/kg/d M</b>	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	7			
	4	4	4	4	4	4	4	4	4	5			
	1	2	3	4	5	6	7	8	9	0			
											<b>* TOTALS</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>
<b>RESPIRATORY SYSTEM</b>													
Lung	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Artery, Thrombus, Focal			2									<b>1</b>	<b>2.0</b>
Nose	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Olfactory Epithelium, Degeneration								1				<b>1</b>	<b>1.0</b>
Olfactory Epithelium, Inflammation, Suppurative								2				<b>1</b>	<b>2.0</b>
Trachea	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>SPECIAL SENSES SYSTEM</b>													
Eye	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Harderian Gland	+	+	+	+	+	+	+	+	+	+			<b>10</b>

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Experiment Number: 04049 - 01

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Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 5 mg/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
		4	5	4	9	4	5	9	5	6	4			
		7	7	7	7	7	7	7	7	7	7	7	7	7
		4	4	4	4	4	4	4	4	4	4	5	5	5
		1	2	3	4	5	6	7	8	9	0			
													<b>* TOTALS</b>	

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Nephropathy, Chronic Progressive						1	1			1	1			4 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	10

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 10 mg/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	
		1	1	1	1	1	1	1	1	1	
		5	7	5	7	7	6	7	7	8	
		7	7	7	7	7	7	7	7	7	
		5	5	5	5	5	5	5	5	6	
		1	2	3	4	5	6	7	8	9	
<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>
Hepatocyte, Cytoplasmic Alteration	3	2	2	2	2	2	2	3	2	1	<b>10 2.1</b>
Hepatocyte, Hypertrophy	3	3	3	3	3	3	3	3	3	3	<b>10 3.0</b>
Hepatocyte, Necrosis		1	2	2	2	2	2	2	1	2	<b>9 1.8</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Epithelium, Hyperplasia	2		1	2	2		2	1	2	2	<b>8 1.8</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 10 mg/kg/d M	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
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
		5	7	5	7	7	6	7	7	8	6				
		7	7	7	7	7	7	7	7	7	7	7	7	7	7
		5	5	5	5	5	5	5	5	5	5	5	5	5	5
		1	2	3	4	5	6	7	8	9	0				
<b>* TOTALS</b>															

CARDIOVASCULAR SYSTEM

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

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	M	+	+	+	+	+	+	+	+	+	9
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Granuloma Sperm	2	2			2									2	4 2.0
Hypospermia	3	3	2	3	3	3	3	3	3	3	3	3	3	3	10 2.9
Duct, Exfoliated Germ Cell	3	2	3	4	4	4	4	4	4	4	4	4	4	4	10 3.6
Epithelium, Apoptosis	3	3	2	1	1	2	2	3	2	2	2	2	2	2	10 2.1

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+ .. Tissue examined microscopically

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Test Type: 28-DAY

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Species/Strain: RATS/HSD

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

Perfluorononanoic Acid

CAS Number: 375-95-1

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 10 mg/kg/d M	DAY ON TEST										* TOTALS
	0 1 5	0 1 7	0 1 5	0 1 7	0 1 7	0 1 6	0 1 7	0 1 7	0 1 8	0 1 6	
ANIMAL ID	0 7 5 1	0 7 5 2	0 7 5 3	0 7 5 4	0 7 5 5	0 7 5 6	0 7 5 7	0 7 5 8	0 7 5 9	0 7 5 0	
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10
Germinal Epithelium, Degeneration	4	4	3	4	4	4	3	4	3	4	10 3.7
Interstitial Cell, Atrophy	3	3	3	4	4	4	3	4	3	4	10 3.5
Seminiferous Tubule, Spermatid Retention	3	3	3	3	3	3	3	3	3	3	10 3.0
<b>HEMATOPOIETIC SYSTEM</b>											
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Hypocellularity	3	3	3	3	3	3	3	3	3	4	10 3.1
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Atrophy		2					2	2	2	3	5 2.2
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Atrophy	3	4		3	4	4	2	4	3	2	9 3.2
Spleen	+	+	+	+	+	+	+	+	+	+	10
Atrophy	4	4	4	4		4	4	4	4	4	9 4.0
Thymus	+	M	+	+	+	+	+	+	+	M	8
Atrophy	4		4	4	4	4	4	4	4		8 4.0
<b>INTEGUMENTARY 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: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

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 MALE</b>	1	1	1	1	1	1	1	1	1	1			
	5	7	5	7	7	6	7	7	8	6			
	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	7			
<b>10 mg/kg/d M</b>	5	5	5	5	5	5	5	5	5	6			
	1	2	3	4	5	6	7	8	9	0			
												<b>* TOTALS</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>
<b>RESPIRATORY SYSTEM</b>													
Lung	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Infiltration Cellular, Mixed Cell		1										<b>1</b>	<b>1.0</b>
Nose	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Olfactory Epithelium, Degeneration		1					2	1				<b>3</b>	<b>1.3</b>
Olfactory Epithelium, Inflammation, Suppurative		2					2					<b>2</b>	<b>2.0</b>
Respiratory Epithelium, Hyperplasia							1					<b>1</b>	<b>1.0</b>
Trachea	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>SPECIAL SENSES SYSTEM</b>													
Eye	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Harderian Gland	+	+	+	+	+	+	+	+	+	+			<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: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>10 mg/kg/d M</b>	DAY ON TEST	0	0	0	0	0	0	0	0	0	<b>* TOTALS</b>
		0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	
		5	7	5	7	7	6	7	7	8	
	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		7	7	7	7	7	7	7	7	7	
		5	5	5	5	5	5	5	5	6	
		1	2	3	4	5	6	7	8	9	
		0	0	0	0	0	0	0	0	0	

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	<b>10</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

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1-4 .. Lesion qualified as:

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Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>FEMALE</b> <b>0 mg/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	
		7	7	7	7	7	7	7	7	7	
		6	6	6	6	6	6	6	6	7	
		1	2	3	4	5	6	7	8	9	
											<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>
Clear Cell Focus										X	<b>1</b>
Infiltration Cellular, Mixed Cell			1							1	<b>2 1.0</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR 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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Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

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

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0 mg/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 7 6 1	0 0 7 6 2	0 0 7 6 3	0 0 7 6 4	0 0 7 6 5	0 0 7 6 6	0 0 7 6 7	0 0 7 6 8	0 0 7 6 9	0 0 7 6 0	
Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10
<b>ENDOCRINE SYSTEM</b>											
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	M	+	+	+	M	M	+	+	+	7
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10
<b>GENERAL BODY SYSTEM</b>											
NONE											
<b>GENITAL SYSTEM</b>											
Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10
Bilateral, Dilation						3					1 3.0
<b>HEMATOPOIETIC SYSTEM</b>											

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 + .. Tissue examined microscopically  
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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0 mg/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 7 6 1	0 0 7 6 2	0 0 7 6 3	0 0 7 6 4	0 0 7 6 5	0 0 7 6 6	0 0 7 6 7	0 0 7 6 8	0 0 7 6 9	0 0 7 6 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 Infiltration Cellular, Mixed Cell	+	+	+	+	+	+	+	+	+	+	10	1 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10	

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+ .. Tissue examined microscopically  
X .. Lesion present  
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Date Report Requested: 02/06/2018

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First Dose M/F: 02/02/12 / 02/03/12

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

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M .. Missing tissue

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Route: GAVAGE

Species/Strain: RATS/HSD

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Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>FEMALE</b> <b>1.56mg/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	
		7	7	7	7	7	7	7	7	7	
		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>
Hepatocyte, Cytoplasmic Alteration		1		1				1	1	<b>5 1.0</b>
Pancreas	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

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

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Ovary	+	+	+	+	+	+	+	+	+	<b>10</b>
-------	---	---	---	---	---	---	---	---	---	-----------

**HEMATOPOIETIC SYSTEM**

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

Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	<b>10</b>
------------------------	---	---	---	---	---	---	---	---	---	-----------

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First Dose M/F: 02/02/12 / 02/03/12

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>1.56mg/kg/d F</b>	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	7			
	7	7	7	7	7	7	7	7	7	8			
	1	2	3	4	5	6	7	8	9	0			<b>* TOTALS</b>
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+			<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>
<b>SPECIAL SENSES SYSTEM</b>													
NONE													
<b>URINARY SYSTEM</b>													
Kidney	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Nephropathy, Chronic Progressive					1				1	1			<b>3 1.0</b>

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ .. Tissue examined microscopically  
X .. Lesion present  
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Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 3.12mg/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
		7	7	7	7	7	7	7	7	7	7	7	7	7	7
		8	8	8	8	8	8	8	8	8	8	8	8	8	8
		1	2	3	4	5	6	7	8	8	9	9	9	9	0
<b>* TOTALS</b>															

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Hepatocyte, Cytoplasmic Alteration	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10 1.0
Hepatocyte, Hypertrophy									1	1					2 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

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

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

+ .. Tissue examined microscopically

X .. Lesion present

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A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked



Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

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>3.12mg/kg/d F</b>	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0		
	7	7	7	7	7	7	7	7	7	7		
	8	8	8	8	8	8	8	8	8	9		
	1	2	3	4	5	6	7	8	9	0		
											<b>* TOTALS</b>	

Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	<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>
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**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	<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

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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>3.12mg/kg/d F</b>	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0		
	7	7	7	7	7	7	7	7	7	7		
	8	8	8	8	8	8	8	8	8	9		
	1	2	3	4	5	6	7	8	9	0		
											<b>* TOTALS</b>	
Nephropathy, Chronic Progressive	1	1	1	1	1	1	1	1	1	1		<b>5 1.0</b>

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Perfluorononanoic Acid

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Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 6.25mg/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		7	7	7	7	7	7	7	7	8
		9	9	9	9	9	9	9	9	9		9	9	9	9	9	9	9	9	0
		1	2	3	4	5	6	7	8	9										
										<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									<b>1 1.0</b>
Hepatocyte, Cytoplasmic Alteration	2	2	1	4	3	3	2	2	3	2	<b>10 2.4</b>
Hepatocyte, Hypertrophy	4	4	4	4	4	4	4	4	4	4	<b>10 4.0</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

CARDIOVASCULAR SYSTEM

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

+ .. Tissue examined microscopically

X .. Lesion present

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Route: GAVAGE

Species/Strain: RATS/HSD

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First Dose M/F: 02/02/12 / 02/03/12

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>6.25mg/kg/d F</b>	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	8			
	9	9	9	9	9	9	9	9	9	0			
	1	2	3	4	5	6	7	8	9	0			<b>* TOTALS</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	+	+			<b>9</b>
Pituitary Gland	M	M	+	+	+	+	+	+	+	+			<b>8</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>GENERAL BODY SYSTEM</b>													
NONE													
<b>GENITAL SYSTEM</b>													
Clitoral Gland	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Ovary	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Uterus	+	+	+	+	+	+	+	+	+	+			<b>10</b>
<b>HEMATOPOIETIC SYSTEM</b>													

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 6.25mg/kg/d F	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	* TOTALS
	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	
		7	7	7	7	7	7	7	7	7	8	
		9	9	9	9	9	9	9	9	9	0	
		1	2	3	4	5	6	7	8	9	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
Nose		+	+	+	+	+	+	+	+	+	+	10

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+ .. Tissue examined microscopically  
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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>6.25mg/kg/d F</b>	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	8			
	9	9	9	9	9	9	9	9	9	0			
	1	2	3	4	5	6	7	8	9	0			
												<b>* TOTALS</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								<b>3 1.0</b>
Urinary Bladder	+	+	+	+	+	+	+	+	+	+			<b>10</b>

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 12.5mg/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	
		1	1	1	1	1	2	2	1	2	
		5	5	5	7	3	7	9	6	5	
		8	8	8	8	8	8	8	8	8	
		0	0	0	0	0	0	0	0	0	
		1	2	3	4	5	6	7	8	9	
											<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	M	+	+	+	+	+	+	+	+	+	<b>9</b>	
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	M	<b>9</b>	
Intestine Small, Jejunum	M	+	+	+	+	+	+	+	+	+	<b>9</b>	
Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Hepatocyte, Cytoplasmic Alteration	1	1	1		1	1	4	2	1	2		<b>9 1.6</b>
Hepatocyte, Hypertrophy	3	3	3	3	2	2	4	3	3	4		<b>10 3.0</b>
Hepatocyte, Necrosis						1		1	1	2		<b>4 1.3</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Epithelium, Hyperplasia		2	3	2	1	3		2		1		<b>7 2.0</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>	

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+ .. Tissue examined microscopically

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Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>FEMALE</b> <b>12.5mg/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
		1	1	1	1	1	2	2	1	2
		5	5	5	7	3	7	9	6	5
		7								
	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
		0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9
<b>* TOTALS</b>										

**CARDIOVASCULAR SYSTEM**

Blood Vessel	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Heart	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**ENDOCRINE SYSTEM**

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Parathyroid Gland	M	+	M	+	+	+	+	+	+	M	<b>7</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>
Uterus	+	+	+	+	+	+	+	+	+	+	<b>10</b>

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 12.5mg/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	
		1	1	1	1	1	2	2	1	2		2	8	8	8	8	8	8	8	8	
		5	5	5	7	3	7	9	6	5	7		0	0	0	0	0	0	0	0	
												1	2	3	4	5	6	7	8	9	0
											<b>* TOTALS</b>										

HEMATOPOIETIC SYSTEM

Bone Marrow Hypocellularity	+	+	+	+	+	+	+	+	+	+	10	10	3.8
Lymph Node, Mandibular Atrophy	+	+	M	M	+	+	+	+	+	+	8	8	3.4
Lymph Node, Mesenteric Atrophy	M	+	+	+	+	+	+	+	+	+	9	8	4.0
Spleen Atrophy	+	+	+	+	+	+	+	+	+	+	10	8	4.0
Thymus Atrophy	+	+	+	+	+	+	+	+	+	+	10	9	4.0

INTEGUMENTARY SYSTEM

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

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

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

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Lab: BAT

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>FEMALE</b> <b>12.5mg/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	
		1	1	1	1	1	2	2	1	2	
		5	5	5	7	3	7	9	6	5	
		7									
	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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

**RESPIRATORY SYSTEM**

Lung	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Vein, Thrombus								2			<b>1 2.0</b>
Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Trachea	+	+	+	+	+	+	+	+	+	+	<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				<b>1 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: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

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

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

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>25mg/kg/d F</b>	1	1	1	1	1	1	1	1	1	1
<b>ANIMAL ID</b>	2	2	2	1	2	2	5	2	2	4
	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
	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>	
Hepatocyte, Hypertrophy	3	2	3	3	3	2	3	3	2	2	<b>10</b>	<b>2.6</b>
Hepatocyte, Necrosis	1		1			1					<b>3</b>	<b>1.0</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>	
Inflammation, Chronic Active					1						<b>1</b>	<b>1.0</b>
Epithelium, Hyperplasia	2	1	1	1		2			2		<b>6</b>	<b>1.5</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>	

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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>25mg/kg/d F</b>	1	1	1	1	1	1	1	1	1	1
<b>ANIMAL ID</b>	2	2	2	1	2	2	5	2	2	4
	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
	1	1	1	1	1	1	1	1	1	2
	1	2	3	4	5	6	7	8	9	0
<b>* TOTALS</b>										

**CARDIOVASCULAR SYSTEM**

Blood Vessel	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Heart	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**ENDOCRINE SYSTEM**

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>

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

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

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 25mg/kg/d F	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1	1	
		2	2	2	1	2	2	5	2	2	4	4	
		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	
		1	1	1	1	1	1	1	1	1	1	2	
		1	2	3	4	5	6	7	8	9	0	0	
												<b>* TOTALS</b>	

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	10	
Arteriole, Thrombus, Focal							1					1 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10	
Olfactory Epithelium, Degeneration		2	1			1	4		2			5 2.0
Olfactory Epithelium, Hyperplasia		1										1 1.0
Olfactory Epithelium, Inflammation, Suppurative		3				1	1					3 1.7
Trachea	+	+	+	+	+	+	+	+	+	+	10	

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10	
Cyst, Focal							X					1
Nephropathy, Chronic Progressive	1	1		1								3 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10	

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

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