

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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

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

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
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 tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
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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			
HARLAN SPRAGUE DAWLEY RATS	2	2	2	2	2	2	2	2	2	2			
MALE	9	9	9	9	9	9	9	9	9	9			
0 mg/kg/d M	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	7			
	0	0	0	0	0	0	0	0	0	1			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Heart	+	+	+	+	+	+	+	+	+	+			10
ENDOCRINE SYSTEM													
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+			10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+			10
Parathyroid Gland	+	M	+	M	+	M	M	+	+	+			6
Pituitary Gland	+	+	+	+	+	+	+	+	+	+			10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+			10
GENERAL BODY SYSTEM													
NONE													
GENITAL SYSTEM													
Epididymis	+	+	+	+	+	+	+	+	+	+			10
Preputial Gland	+	+	+	+	+	+	+	+	+	+			10
Prostate	+	+	+	+	+	+	+	+	+	+			10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+			10
Testes	+	+	+	+	+	+	+	+	+	+			10

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Lab: BAT

DAY ON TEST HARLAN SPRAGUE DAWLEY RATS MALE 0 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	2	2	2	2	2	2	2	2	2	2
	9	9	9	9	9	9	9	9	9	9
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0
* TOTALS										

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
------	---	---	---	---	---	---	---	---	---	---	-----------

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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			
HARLAN SPRAGUE DAWLEY RATS	2	2	2	2	2	2	2	2	2	2			
MALE	9	9	9	9	9	9	9	9	9	9			
0 mg/kg/d M	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	7			
	0	0	0	0	0	0	0	0	0	1			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Nose	+	+	+	+	+	+	+	+	+	+			10
Trachea	+	+	+	+	+	+	+	+	+	+			10
SPECIAL SENSES SYSTEM													
Eye	+	+	+	+	+	+	+	+	+	+			10
Harderian Gland	+	+	+	+	+	+	+	+	+	+			10
URINARY SYSTEM													
Kidney	+	+	+	+	+	+	+	+	+	+			10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+			10
SYSTEMIC LESIONS													
Multiple Organ	+	+	+	+	+	+	+	+	+	+			10

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

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0.625mg/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	
		1	1	1	1	1	1	1	1	1	2	
		1	2	3	4	5	6	7	8	9	0	* TOTALS

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
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

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	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	
	0	0	0	0	0	0	0	0	0	0	
HARLAN SPRAGUE DAWLEY RATS	2	2	2	2	2	2	2	2	2	2	
MALE	9	9	9	9	9	9	9	9	9	9	
0.625mg/kg/d M											
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	7	7	7	7	7	7	7	7	7	7	
	1	1	1	1	1	1	1	1	1	2	
	1	2	3	4	5	6	7	8	9	0	
											* TOTALS
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
NONE											
MUSCULOSKELETAL SYSTEM											
NONE											
NERVOUS SYSTEM											
NONE											
RESPIRATORY SYSTEM											
Nose	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
NONE											
URINARY SYSTEM											
Kidney	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0.625mg/kg/d M	DAY ON TEST	0	0	0	0	0	0	0	0	0	* TOTALS
		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	
		1	2	3	4	5	6	7	8	0	
Multiple Organ	+	+	+	+	+	+	+	+	+	10	

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
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First Dose M/F: 02/02/12 / 02/03/12

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

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
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

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
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DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
HARLAN SPRAGUE DAWLEY RATS	2	2	2	2	2	2	2	2	2	2	
MALE	9	9	9	9	9	9	9	9	9	9	
1.25 mg/kg/d M											
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	7	7	7	7	7	7	7	7	7	7	
	2	2	2	2	2	2	2	2	2	3	
	1	2	3	4	5	6	7	8	9	0	
	* TOTALS										
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
NONE											
MUSCULOSKELETAL SYSTEM											
NONE											
NERVOUS SYSTEM											
NONE											
RESPIRATORY SYSTEM											
Nose	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
NONE											
URINARY SYSTEM											
Kidney	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
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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	
		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	
											* TOTALS
Multiple Organ		+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
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Lab: BAT

		0	0	0	0	0	0	0	0	0	0
DAY ON TEST		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
2.5 mg/kg/d M	ANIMAL ID	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		7	7	7	7	7	7	7	7	7	
		3	3	3	3	3	3	3	3	4	
		1	2	3	4	5	6	7	8	9	
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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

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Lab: BAT

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID		
	2	2	2	2	2	2	2	2	2	2			
HARLAN SPRAGUE DAWLEY RATS	9	9	9	9	9	9	9	9	9	9			
MALE													
2.5 mg/kg/d M													
	0	0	0	0	0	0	0	0	0	0			
	7	7	7	7	7	7	7	7	7	7			
	3	3	3	3	3	3	3	3	3	4			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Heart	+	+	+	+	+	+	+	+	+	+			10
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													
Epididymis	+	+	+	+	+	+	+	+	+	+			10
Preputial Gland	+	+	+	+	+	+	+	+	+	+			10
Prostate	+	+	+	+	+	+	+	+	+	+			10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+			10
Testes	+	+	+	+	+	+	+	+	+	+			10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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	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
		3	3	3	3	3	3	3	3	3	3	3	3	4
		1	2	3	4	5	6	7	8	9	0			
* TOTALS														

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
------	---	---	---	---	---	---	---	---	---	---	---	---	---	----

NERVOUS SYSTEM

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

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	10
------	---	---	---	---	---	---	---	---	---	---	---	---	---	----

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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			
HARLAN SPRAGUE DAWLEY RATS	2	2	2	2	2	2	2	2	2	2			
MALE	9	9	9	9	9	9	9	9	9	9			
2.5 mg/kg/d M	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			
	3	3	3	3	3	3	3	3	3	4			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Nose	+	+	+	+	+	+	+	+	+	+			10
Trachea	+	+	+	+	+	+	+	+	+	+			10
SPECIAL SENSES SYSTEM													
Eye	+	+	+	+	+	+	+	+	+	+			10
Harderian Gland	+	+	+	+	+	+	+	+	+	+			10
URINARY SYSTEM													
Kidney	+	+	+	+	+	+	+	+	+	+			10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+			10
SYSTEMIC LESIONS													
Multiple Organ	+	+	+	+	+	+	+	+	+	+			10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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
HARLAN SPRAGUE DAWLEY RATS MALE	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	
	<hr/>										
5 mg/kg/d M	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	
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	M	+	+	9
Intestine Large, Colon	M	+	+	+	+	+	+	M	+	+	8
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	M	+	+	+	+	+	+	M	+	+	8
Intestine Small, Ileum	+	+	+	+	+	+	+	M	+	+	9
Intestine Small, Jejunum	+	+	+	+	+	+	+	M	+	+	9
Liver	+	+	+	+	+	+	+	M	+	+	9
Pancreas	M	+	+	+	+	+	+	M	+	+	8
Salivary Glands	+	M	+	+	+	+	+	+	+	+	9
Stomach, Forestomach	M	+	+	+	+	+	+	M	+	+	8
Stomach, Glandular	+	+	+	+	+	+	+	M	+	+	9

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
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* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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			
HARLAN SPRAGUE DAWLEY RATS	2	2	2	2	2	2	2	2	2	2			
MALE	4	5	4	9	4	5	9	5	6	4			
5 mg/kg/d M	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			* TOTALS
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	M	+	+	+	+	+	+	+	+	+			9
Preputial Gland	+	+	+	+	+	+	+	+	+	+			10
Prostate	+	+	+	+	+	+	+	+	+	+			10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+			10
Testes	M	+	+	+	+	+	+	+	+	+			9

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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
	HARLAN SPRAGUE DAWLEY RATS MALE	0	0	0	0	0	0	0	0	0
5 mg/kg/d M	2	2	2	2	2	2	2	2	2	2
ANIMAL ID	4	5	4	9	4	5	9	5	6	4
	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
* TOTALS										

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	M	M	+	+	+	+	+	+	M	7
Lymph Node, Mesenteric	M	+	+	+	+	+	+	M	+	+	8
Spleen	M	+	+	+	+	+	+	M	+	+	8
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
------	---	---	---	---	---	---	---	---	---	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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										* TOTALS
	0 2 4	0 2 5	0 2 4	0 2 9	0 2 4	0 2 5	0 2 9	0 2 5	0 2 6	0 2 4	
ANIMAL ID	0 7 4 1	0 7 4 2	0 7 4 3	0 7 4 4	0 7 4 5	0 7 4 6	0 7 4 7	0 7 4 8	0 7 4 9	0 7 5 0	
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
URINARY SYSTEM											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10
SYSTEMIC LESIONS											
Multiple Organ	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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

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

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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		
	1	1	1	1	1	1	1	1	1	1			
HARLAN SPRAGUE DAWLEY RATS	5	7	5	7	7	6	7	7	8	6			
MALE													
10 mg/kg/d M													
	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			
	5	5	5	5	5	5	5	5	5	6			
	1	2	3	4	5	6	7	8	9	0			
											* TOTALS		
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
Preputial Gland	+	+	+	+	+	+	+	+	+	+			10
Prostate	+	+	+	+	+	+	+	+	+	+			10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+			10
Testes	+	+	+	+	+	+	+	+	+	+			10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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
	HARLAN SPRAGUE DAWLEY RATS MALE	1	1	1	1	1	1	1	1	1
10 mg/kg/d M	5	7	5	7	7	6	7	7	8	6
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7
	5	5	5	5	5	5	5	5	5	6
	1	2	3	4	5	6	7	8	9	0
* TOTALS										

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	M	+	+	+	+	+	+	+	M	8

INTEGUMENTARY SYSTEM

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

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

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

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	10
------	---	---	---	---	---	---	---	---	---	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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			
HARLAN SPRAGUE DAWLEY RATS MALE	1	1	1	1	1	1	1	1	1	1	10 mg/kg/d M		
	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			
	5	5	5	5	5	5	5	5	5	6			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Nose	+	+	+	+	+	+	+	+	+	+			10
Trachea	+	+	+	+	+	+	+	+	+	+			10
SPECIAL SENSES SYSTEM													
Eye	+	+	+	+	+	+	+	+	+	+			10
Harderian Gland	+	+	+	+	+	+	+	+	+	+			10
URINARY SYSTEM													
Kidney	+	+	+	+	+	+	+	+	+	+			10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+			10
SYSTEMIC LESIONS													
Multiple Organ	+	+	+	+	+	+	+	+	+	+			10

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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
	HARLAN SPRAGUE DAWLEY RATS FEMALE	0	0	0	0	0	0	0	0	0
0 mg/kg/d F	2	2	2	2	2	2	2	2	2	2
ANIMAL ID	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
	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
* TOTALS										

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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		
	2	2	2	2	2	2	2	2	2	2			
HARLAN SPRAGUE DAWLEY RATS FEMALE	9	9	9	9	9	9	9	9	9	9			
0 mg/kg/d F	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	6			
	1	2	3	4	5	6	7	8	9	0			
	* TOTALS												
Heart	+	+	+	+	+	+	+	+	+	+			10
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
HEMATOPOIETIC SYSTEM													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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 0 mg/kg/d F	DAY ON TEST	0	0	0	0	0	0	0	0	0	* TOTALS
		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	
		0	0	0	0	0	0	0	0	0	

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

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

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	10
----------------	---	---	---	---	---	---	---	---	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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 1.56mg/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	
		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	
* TOTALS											

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
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
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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			
HARLAN SPRAGUE DAWLEY RATS FEMALE	2	2	2	2	2	2	2	2	2	2			
1.56mg/kg/d F	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			
	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			* TOTALS
Spleen	+	+	+	+	+	+	+	+	+	+			10
Thymus	+	+	+	+	+	+	+	+	+	+			10
INTEGUMENTARY SYSTEM													
NONE													
MUSCULOSKELETAL SYSTEM													
NONE													
NERVOUS SYSTEM													
NONE													
RESPIRATORY SYSTEM													
Nose	+	+	+	+	+	+	+	+	+	+			10
SPECIAL SENSES SYSTEM													
NONE													
URINARY SYSTEM													
Kidney	+	+	+	+	+	+	+	+	+	+			10
SYSTEMIC LESIONS													
Multiple Organ	+	+	+	+	+	+	+	+	+	+			10

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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	
	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	
		8	8	8	8	8	8	8	8	9	
		1	2	3	4	5	6	7	8	9	
* TOTALS											

ALIMENTARY SYSTEM

Liver	+	+	+	+	+	+	+	+	+	+	10
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
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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 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	
		9	9	9	9	9	9	9	9	9	
		7	7	7	7	7	7	7	7	8	
		9	9	9	9	9	9	9	9	0	
		1	2	3	4	5	6	7	8	9	
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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		
	2	2	2	2	2	2	2	2	2	2			
HARLAN SPRAGUE DAWLEY RATS FEMALE													
6.25mg/kg/d F													
	0	0	0	0	0	0	0	0	0	0	7	8	
	0	0	0	0	0	0	0	0	0	0	9	0	
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Heart	+	+	+	+	+	+	+	+	+	+			10
ENDOCRINE SYSTEM													
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+			10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+			10
Parathyroid Gland	+	+	+	+	+	+	+	M	+	+			9
Pituitary Gland	M	M	+	+	+	+	+	+	+	+			8
Thyroid Gland	+	+	+	+	+	+	+	+	+	+			10
GENERAL BODY SYSTEM													
NONE													
GENITAL SYSTEM													
Clitoral Gland	+	+	+	+	+	+	+	+	+	+			10
Ovary	+	+	+	+	+	+	+	+	+	+			10
Uterus	+	+	+	+	+	+	+	+	+	+			10
HEMATOPOIETIC SYSTEM													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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 6.25mg/kg/d F	DAY ON TEST										* TOTALS
	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	
ANIMAL ID	ANIMAL ID										
	0 7 9 1	0 7 9 2	0 7 9 3	0 7 9 4	0 7 9 5	0 7 9 6	0 7 9 7	0 7 9 8	0 7 9 9	0 7 9 0	
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM											
Bone	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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 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	
		9	9	9	9	9	9	9	9	9	
		7	7	7	7	7	7	7	7	8	
		9	9	9	9	9	9	9	9	0	
		1	2	3	4	5	6	7	8	9	
* TOTALS											

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

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

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	10
----------------	---	---	---	---	---	---	---	---	---	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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

		0	0	0	0	0	0	0	0	0	0
DAY ON TEST		0	0	0	0	0	0	0	0	0	0
HARLAN SPRAGUE DAWLEY RATS		1	1	1	1	1	2	2	1	2	2
FEMALE		5	5	5	7	3	7	9	6	5	7
12.5mg/kg/d F											
ANIMAL ID		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	M	+	+	+	+	+	+	+	+	+	9
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	M	9
Intestine Small, Jejunum	M	+	+	+	+	+	+	+	+	+	9
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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			
HARLAN SPRAGUE DAWLEY RATS	1	1	1	1	1	2	2	1	2	2			
FEMALE	5	5	5	7	3	7	9	6	5	7			
12.5mg/kg/d F	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	8	8	8	8	8	8	8	8	8	8			
	0	0	0	0	0	0	0	0	0	1			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Heart	+	+	+	+	+	+	+	+	+	+			10
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
HEMATOPOIETIC SYSTEM													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			10

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS 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 12.5mg/kg/d F	DAY ON TEST										* TOTALS
	0 1 5	0 1 5	0 1 5	0 1 7	0 1 3	0 2 7	0 2 9	0 1 6	0 2 5	0 2 7	
ANIMAL ID	0 8 0 1	0 8 0 2	0 8 0 3	0 8 0 4	0 8 0 5	0 8 0 6	0 8 0 7	0 8 0 8	0 8 0 9	0 8 0 0	
Lymph Node, Mandibular	+	+	M	M	+	+	+	+	+	+	8
Lymph Node, Mesenteric	M	+	+	+	+	+	+	+	+	+	9
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM											
Bone	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10

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

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

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

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

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

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID		
	1	1	1	1	1	1	1	1	1	1			
HARLAN SPRAGUE DAWLEY RATS FEMALE	2	2	2	1	2	2	5	2	2	4			
25mg/kg/d F	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			* TOTALS
Heart	+	+	+	+	+	+	+	+	+	+			10
ENDOCRINE SYSTEM													
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+			10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+			10
Parathyroid Gland	+	+	+	+	+	M	M	+	+	+			8
Pituitary Gland	+	+	+	+	+	+	+	+	+	+			10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+			10
GENERAL BODY SYSTEM													
NONE													
GENITAL SYSTEM													
Clitoral Gland	+	+	+	+	+	+	+	+	+	+			10
Ovary	+	+	+	+	+	+	+	+	+	+			10
Uterus	+	+	+	+	+	+	+	+	+	+			10
HEMATOPOIETIC SYSTEM													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			10

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HARLAN SPRAGUE DAWLEY RATS FEMALE 25mg/kg/d F	DAY ON TEST										* TOTALS
	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2	0 1 5	0 1 2	0 1 2	0 1 4	
ANIMAL ID	0 8 1 1	0 8 1 2	0 8 1 3	0 8 1 4	0 8 1 5	0 8 1 6	0 8 1 7	0 8 1 8	0 8 1 9	0 8 1 0	
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	M	9
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM											
Bone	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM											
Brain	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM											
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10

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

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

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

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	10
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*** END OF REPORT ***

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