

Experiment Number: 20614 - 01
Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
Perfluorooctanoic Acid
CAS Number: 335-67-1

Date Report Requested: 07/25/2018
Time Report Requested: 12:58:26
First Dose M/F: 10/27/08 / 10/28/08
Lab: BAT

Final 1_Core Only

NTP Study Number:	C20614		
Lock Date:	01/10/2012		
Cage Range:	ALL		
Date Range:	ALL		
Reasons For Removal:	25021 TSAC	25020 NATD	25019 MSAC
Removal Date Range:	ALL		
Treatment Groups:	Include ALL		
Study Gender:	Both		
TDMSE Version:	3.0.2.3_002		
PWG Approval Date:	07/25/2018		

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HARLAN SPRAGUE DAWLEY RATS FEMALE 0/0 ppm	DAY ON TEST																									ANIMAL ID	females (cont...)
	0 7 4 6	0 6 7 6	0 4 3 5	0 7 4 5	0 7 4 6	0 7 4 4	0 7 4 6	0 5 3 4	0 7 2 6	0 7 4 5	0 6 4 6	0 7 4 5	0 5 7 4	0 5 4 4	0 7 4 6	0 7 4 4	0 5 9 2	0 7 8 2	0 5 8 9	0 7 4 5	0 6 4 7	0 5 4 7	0 4 4 7	0 5 4 2			
	0 0 3 0 1	0 0 3 0 3	0 0 3 0 4	0 0 3 0 6	0 0 3 0 7	0 0 3 0 9	0 0 3 1 0	0 0 3 1 1	0 0 3 1 3	0 0 3 1 4	0 0 3 1 5	0 0 3 1 6	0 0 3 1 7	0 0 3 1 8	0 0 3 2 0	0 0 3 2 1	0 0 3 2 2	0 0 3 2 3	0 0 3 2 4	0 0 3 2 5	0 0 3 2 6	0 0 3 2 7	0 0 3 2 8	0 0 3 2 9	0 0 3 3 0		

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon Lymphoma Malignant	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cholangioma, Multiple														X												
Hepatocellular Adenoma																									X	
Hepatocellular Carcinoma																								X		
Leukemia Mononuclear																										
Lymphoma Malignant								X																		
Mesentery																										
Lymphoma Malignant																										+
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Leukemia Mononuclear																										

* .. Total animals with tissue examined microscopically; Total animals with tumor
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	0 7 4 6	0 6 7 6	0 4 3 5	0 7 4 5	0 7 4 6	0 7 4 4	0 7 4 6	0 5 3 4	0 7 2 6	0 7 4 5	0 6 4 6	0 7 4 3	0 5 4 3	0 5 7 4	0 7 4 4	0 7 4 6	0 5 9 2	0 7 1 2	0 5 8 9	0 7 4 5	0 6 4 7	0 5 4 7	0 4 4 7	0 5 4 2		
	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 3 0 1		
Lymphoma Malignant																									X	
Salivary Glands Lymphoma Malignant	+ +																								X	
Stomach, Forestomach Leukemia Mononuclear Lymphoma Malignant	+ +																								X	
Stomach, Glandular Leukemia Mononuclear Lymphoma Malignant	+ +																								X	

CARDIOVASCULAR SYSTEM

Blood Vessel	+ +																								
Heart Lymphoma Malignant	+ +																								X

ENDOCRINE SYSTEM

Adrenal Cortex Adenoma Leukemia Mononuclear Lymphoma Malignant	+ +																								X	
Adrenal Medulla Lymphoma Malignant Pheochromocytoma Benign	+ +																								X	

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	0 7 4 6	0 6 7 6	0 4 3 5	0 7 4 5	0 7 4 6	0 7 4 4	0 7 4 6	0 5 3 4	0 7 4 6	0 7 2 2	0 6 4 5	0 7 4 6	0 5 4 3	0 5 7 4	0 7 4 6	0 5 9 2	0 7 1 2	0 5 8 9	0 7 4 5	0 6 4 7	0 5 4 7	0 6 4 7	0 5 4 2			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00301		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00333		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00333		
	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	00333		
	1	3	4	6	7	9	0	1	3	4	5	6	7	8	0	1	2	3	4	5	6	7	8	00333		

Islets, Pancreatic Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Parathyroid Gland	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	M	+	+	+	+	+	+	
Pituitary Gland Pars Distalis, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X X X X X X
Thyroid Gland Bilateral, C-cell, Adenoma C-cell, Adenoma C-cell, Adenoma, Multiple C-cell, Carcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X X X X

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland Carcinoma Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X
Ovary Granulosa Cell Tumor Benign Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	X
Uterus Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X

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DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS FEMALE																								ANIMAL ID	females (cont...)		
	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	
7	6	4	7	7	7	7	5	7	7	7	6	7	5	5	7	7	5	7	5	7	6	5	7	6	5	4	0	
4	7	3	4	4	4	4	4	3	4	2	4	4	4	7	4	4	4	9	1	8	4	4	4	5	4	5	0	
6	6	5	5	6	6	4	3	6	2	4	5	6	3	4	4	6	4	2	2	9	5	7	7	2	2	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	
1	3	4	6	7	9	0	1	3	4	5	6	7	8	0	1	2	3	4	5	6	7	8	9	0	0	3		

Polyp Stromal
Polyp Stromal, Multiple

X X X
X

HEMATOPOIETIC SYSTEM

Bone Marrow Carcinoma, Metastatic, Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph Node Inguinal, Lymphoma Malignant																										
Lymph Node, Mandibular Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	
Lymph Node, Mesenteric Leukemia Mononuclear Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Spleen Leukemia Mononuclear Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Thymus Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

INTEGUMENTARY SYSTEM

Mammary Gland Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma																									
Fibroadenoma		X	X								X				X								X		

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

Fibroadenoma, Multiple																	X										
Lymphoma Malignant																											X
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Subcutaneous Tissue, Sarcoma																											X

MUSCULOSKELETAL SYSTEM

Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Femur, Osteosarcoma																											

NERVOUS SYSTEM

Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Spinal Cord																											
Astrocytoma Malignant																											+
																											X

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Adenocarcinoma, Metastatic, Mammary Gland																											
Astrocytoma Malignant, Metastatic, Spinal Cord																											
Leukemia Mononuclear																											X
Lymphoma Malignant																											X
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Glands, Carcinoma																											
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

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HARLAN SPRAGUE DAWLEY RATS FEMALE 0/0 ppm	DAY ON TEST	0 7 4 6	0 6 7 6	0 4 3 5	0 7 4 5	0 7 4 6	0 7 4 4	0 7 4 6	0 5 3 4	0 7 2 6	0 7 4 5	0 6 4 6	0 7 4 3	0 5 7 4	0 5 4 4	0 7 4 6	0 7 4 4	0 5 9 2	0 7 8 9	0 5 4 5	0 6 4 7	0 5 4 7	0 5 4 7	0 4 5 2	females (cont...)					
	ANIMAL ID	0 0 3 0 1	0 0 3 0 3	0 0 3 0 4	0 0 3 0 7	0 0 3 0 9	0 0 3 0 1	0 0 3 1 1	0 0 3 1 1	0 0 3 1 1	0 0 3 1 1	0 0 3 1 1	0 0 3 1 1	0 0 3 1 2	0 0 3 1 2	0 0 3 1 2	0 0 3 1 2	0 0 3 2 2	0 0 3 2 2	0 0 3 3 2	0 0 3 3 2	0 0 3 3 2	0 0 3 3 2	0 0 3 3 3		0 0 3 3 3	0 0 3 3 3	0 0 3 3 3	0 0 3 3 3	0 0 3 3 3

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, Metastatic, Mammary Gland																											
Lymphoma Malignant										X																	
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma Malignant										X																	

SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Leukemia Mononuclear																											
Lymphoma Malignant										X																	

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	0621	0625	0624	0625	0624	0624	0629	0620	0624	0622	0623	0627	0623	0627	0626	0627	0624	0624	0623	0626	0624	0624	0624	0621	0628	
ANIMAL ID	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	0033	
	1	3	5	6	7	8	0	2	4	3	4	4	5	7	8	9	0	1	2	3	4	5	6	7	8	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Colon Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Jejunum Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cholangioma, Multiple																										1
Hepatocellular Adenoma										X																2
Hepatocellular Carcinoma																										1
Leukemia Mononuclear												X														1
Lymphoma Malignant																										1
Mesentery																										2
Lymphoma Malignant																										1
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Leukemia Mononuclear												X														1

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	0621	0625	0674	0675	0677	0692	0675	0676	0677	0678	0679	0680	0681	0682	0683	0684	0685	0686	0687	0688	0689	0690	0691	0692	0693		0694
ANIMAL ID	003331	003335	003336	003337	003338	003339	003340	003341	003342	003343	003344	003345	003346	003347	003348	003349	003350	003351	003352	003353	003354	003355	003356	003357	003358	003359	
Lymphoma Malignant																											1
Salivary Glands Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Stomach, Forestomach Leukemia Mononuclear Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
													X														1
																											1
Stomach, Glandular Leukemia Mononuclear Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
													X														1
																											1
CARDIOVASCULAR SYSTEM																											
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Heart Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
																											1
ENDOCRINE SYSTEM																											
Adrenal Cortex Adenoma Leukemia Mononuclear Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
																											2
													X														1
																											1
Adrenal Medulla Lymphoma Malignant Pheochromocytoma Benign	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
																											1
																											1

* .. 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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 BLANK .. Not examined microscopically

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/0 ppm	DAY ON TEST																								* TOTALS
	0621	0625	0624	0625	0624	0624	0629	0620	0624	0622	0623	0627	0623	0627	0626	0627	0624	0624	0623	0626	0624	0624	0624	0621	
ANIMAL ID	00331	00335	00336	00337	00338	00339	00340	00341	00342	00343	00344	00345	00346	00347	00348	00349	00350	00351	00352	00353	00354	00355	00356	00357	00358

Islets, Pancreatic Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Parathyroid Gland	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Pituitary Gland Pars Distalis, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 22
X			X		X	X				X						X			X	X	X		X	X	
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Bilateral, C-cell, Adenoma				X																				X	2
C-cell, Adenoma	X				X																				6
C-cell, Adenoma, Multiple																									1
C-cell, Carcinoma					X																				1

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Carcinoma					X																				1
Lymphoma Malignant																									1
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Granulosa Cell Tumor Benign																									1
Lymphoma Malignant																									1
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymphoma Malignant																									1

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Route: DOSED FEED

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Perfluorooctanoic Acid

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

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

* TOTALS

Polyp Stromal
Polyp Stromal, Multiple

X

X

5
1

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Carcinoma, Metastatic, Nose												X												1
Lymph Node																								1
Inguinal, Lymphoma Malignant																								1
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	48
Lymphoma Malignant																								1
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Leukemia Mononuclear										X														1
Lymphoma Malignant																								1
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Leukemia Mononuclear										X														1
Lymphoma Malignant																								1
Thymus	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	49
Lymphoma Malignant																								1

INTEGUMENTARY SYSTEM

Mammary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenocarcinoma										X						X								3
Adenoma					X																			1
Fibroadenoma				X		X	X				X					X		X	X					12

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Experiment Number: 20614 - 01

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Species/Strain: RATS/HSD

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/0 ppm	DAY ON TEST																				* TOTALS					
	06 21	06 25	07 45	07 44	07 44	06 92	07 05	07 46	03 23	06 63	03 17	02 82	03 42	07 45	06 73	07 44	06 38	06 61	07 44	07 44		07 61	04 18	06 88		
ANIMAL ID	00331	00333	00335	00336	00337	00338	00339	00340	00341	00342	00343	00344	00345	00346	00347	00348	00349	00350	00351	00352	00353	00354	00355	00356		
Fibroadenoma, Multiple	X		X					X						X			X	X						X	9	
Lymphoma Malignant																									1	
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Subcutaneous Tissue, Sarcoma																									1	
MUSCULOSKELETAL SYSTEM																										
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Femur, Osteosarcoma														X											1	
NERVOUS SYSTEM																										
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Spinal Cord																									1	
Astrocytoma Malignant																									1	
RESPIRATORY SYSTEM																										
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Adenocarcinoma, Metastatic, Mammary Gland									X																1	
Astrocytoma Malignant, Metastatic, Spinal Cord																									1	
Leukemia Mononuclear										X															1	
Lymphoma Malignant																									1	
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Glands, Carcinoma												X													1	
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ANIMAL ID	females (cont...)
	6	6	7	7	7	7	7	7	4	7	7	5	6	4	6	7	4	5	7	7	7	2	7	6			
	9	4	4	4	4	4	4	0	7	4	4	7	9	8	7	4	7	7	4	4	4	4	5	4	9		
	5	3	5	5	6	6	4	7	0	5	5	4	5	4	6	4	0	4	5	6	4	5	0	4	0		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
	6	6	6	6	6	6	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	9		
	2	3	4	8	9	0	2	3	4	5	6	7	8	9	0	1	3	4	6	7	8	9	0	1	2		

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver Cholangiocarcinoma Hepatocellular Carcinoma Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Forestomach Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

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Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		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	females (cont...)
HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST	6	6	7	7	7	7	7	7	4	7	7	5	6	4	6	7	4	5	7	7	7	7	2	7	6	
	ANIMAL ID	9	4	4	4	4	4	4	0	7	4	4	7	9	8	7	4	7	7	4	4	4	4	5	4	9	
		5	3	5	5	6	6	4	7	0	5	5	4	5	4	6	4	0	4	5	6	4	5	0	4	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
		6	6	6	6	6	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	9	9	
		2	3	4	8	9	0	2	3	4	5	6	7	8	9	0	1	3	4	6	7	8	8	9	1	2	

Lymphoma Malignant

CARDIOVASCULAR SYSTEM

Blood Vessel +

Heart +

ENDOCRINE SYSTEM

Adrenal Cortex Adenoma +

Adrenal Medulla Pheochromocytoma Benign +
X

Islets, Pancreatic Adenoma +

Parathyroid Gland +

Pituitary Gland Pars Distalis, Adenoma +
X X X X X X

Thyroid Gland Bilateral, C-cell, Adenoma C-cell, Adenoma +
X X X X X X

GENERAL BODY SYSTEM

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HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	6	6	7	7	7	7	7	7	4	7	7	5	6	4	6	7	4	5	7	7	7	2	7	6	9	4	4	4	4	4	4	5	0	4	4	0	0	0

females
(cont...)

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Granulosa Cell Tumor Malignant																																											
Lymphoma Malignant																																											
Oviduct																																											
Lymphoma Malignant																																											
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Lymphoma Malignant																																											
Polyp Stromal														X																												X	
Endometrium, Adenocarcinoma																																											
Endometrium, Adenoma																																											

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Lymph Node																																												
Axillary, Adenocarcinoma, Metastatic, Mammary Gland																																												
Lumbar, Lymphoma Malignant																																												
Pancreatic, Lymphoma Malignant																																												
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

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DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS FEMALE																								ANIMAL ID	females (cont...)	
	0695	0643	0745	0745	0776	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774			0774
0/300 ppm	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	00362	

Lymphoma Malignant																										
Lymph Node, Mesenteric Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Spleen Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thymus Lymphoma Malignant	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

INTEGUMENTARY SYSTEM

Mammary Gland Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma, Multiple																										
Adenoma																										
Fibroadenoma			X		X			X	X	X		X	X	X		X			X	X						
Fibroadenoma, Multiple																			X							
Lymphoma Malignant																										
Skin Subcutaneous Tissue, Fibroma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

MUSCULOSKELETAL SYSTEM

Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal Muscle Hemangiosarcoma																										+

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HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST	0 6 9 5	0 6 4 3	0 7 4 5	0 7 4 5	0 7 4 6	0 7 4 4	0 7 4 7	0 7 4 0	0 7 4 5	0 7 4 5	0 7 4 4	0 5 7 5	0 6 8 6	0 7 4 4	0 6 7 6	0 4 7 4	0 5 7 5	0 7 4 6	0 7 4 4	0 7 4 5	0 2 5 0	0 7 4 4	0 6 9 0	females (cont...)		
	ANIMAL ID	0 0 3 6 2	0 0 3 6 3	0 0 3 6 4	0 0 3 6 8	0 0 3 6 9	0 0 3 6 7	0 0 3 7 2	0 0 3 7 3	0 0 3 7 4	0 0 3 7 5	0 0 3 7 6	0 0 3 7 7	0 0 3 7 8	0 0 3 7 9	0 0 3 8 0	0 0 3 8 1	0 0 3 8 2	0 0 3 8 3	0 0 3 8 4	0 0 3 8 5	0 0 3 8 6	0 0 3 8 7	0 0 3 8 8		0 0 3 8 9	0 0 3 9 0

NERVOUS SYSTEM

Brain +

RESPIRATORY SYSTEM

Lung +
Lymphoma Malignant

Nose +

Trachea +

SPECIAL SENSES SYSTEM

Eye +
Choroid, Lymphoma Malignant

Harderian Gland +

URINARY SYSTEM

Kidney +
Lymphoma Malignant
Renal Tubule, Adenoma X

Urinary Bladder +
Lymphoma Malignant

SYSTEMIC LESIONS

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Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST	0695	0643	0745	0774	0776	0777	0777	0777	0777	0777	0474	0775	0775	0775	0474	0667	0744	0577	0774	0774	0774	0274	0774	0775	0644	0769	
	ANIMAL ID	00362	00334	00334	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336	00336
	Multiple Organ Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

females
(cont...)

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS FEMALE																								* TOTALS
	07	07	06	06	07	07	07	07	07	05	05	07	07	07	07	07	07	06	07	06	07	07	06	07	
0/300 ppm	4	4	3	8	4	4	4	4	8	3	4	4	4	4	4	4	4	9	3	5	4	3	4	9	1
ANIMAL ID	00393	0034	0035	0036	0037	0038	0039	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	0050	0051	0052	0053	0054	0055	0056	0057
	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

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	49
Intestine Large, Colon Lymphoma Malignant	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	49 1
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	49
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	49
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	49
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cholangiocarcinoma																									1
Hepatocellular Carcinoma									X																1
Lymphoma Malignant									X																1
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, Forestomach Lymphoma Malignant	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST																								* TOTALS		
	0745	0744	0663	0668	0774	0774	0777	0777	0555	0555	0777	0777	0777	0777	0777	0777	0666	0777	0666	0777	0777	0666	0777	0777		0777	
ANIMAL ID	00393	0034	0035	0036	0037	0038	0039	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	0050	0051	0052	0053	0054	0055	0056	0057	0058	
Lymphoma Malignant																											1

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

ENDOCRINE SYSTEM

Adrenal Cortex Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
								X					X													2
Adrenal Medulla Pheochromocytoma Benign	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
					X														X							3
Islets, Pancreatic Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
																							X			1
Parathyroid Gland	+	M	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	47
Pituitary Gland Pars Distalis, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
	X				X											X		X						X		11
Thyroid Gland Bilateral, C-cell, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
C-cell, Adenoma	X							X							X									X		1
																										10

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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M .. Missing tissue
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 BLANK .. Not examined microscopically

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		7	7	6	6	7	7	7	7	5	5	7	7	7	7	7	6	7	6	7	7	6	7	6	7	7	7	7
		4	4	3	8	4	4	4	4	8	3	4	4	4	4	4	9	3	5	4	3	4	9	1	4	1	4	5
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	9	9	9	9	9	9	9	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	0	
	3	4	5	6	7	8	9	0	1	2	3	4	7	8	0	1	2	3	4	5	6	7	8	9	0	0	0	
	* TOTALS																											

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	49
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	49
Granulosa Cell Tumor Malignant				X																							1
Lymphoma Malignant									X																		1
Oviduct									+																		1
Lymphoma Malignant									X																		1
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	49
Lymphoma Malignant									X																		1
Polyp Stromal	X						X																				4
Endometrium, Adenocarcinoma		X																									1
Endometrium, Adenoma				X																							1

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymph Node									+															+			3
Axillary, Adenocarcinoma, Metastatic, Mammary Gland																							X				1
Lumbar, Lymphoma Malignant									X																		1
Pancreatic, Lymphoma Malignant									X																		1
Lymph Node, Mandibular	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST																								* TOTALS		
	0745	0744	0638	0687	0776	0775	0776	0776	0589	0553	0744	0774	0774	0774	0774	0774	0695	0673	0675	0744	0773	0774	0695	0771		0774	
ANIMAL ID	00393	0034	0035	0036	0037	0038	0039	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	0050	0051	0052	0053	0054	0055	0056	0057	0058	
Lymphoma Malignant									X																	1	
Lymph Node, Mesenteric Lymphoma Malignant	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	48	
									X																	1	
Spleen Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
									X																	1	
Thymus Lymphoma Malignant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	48	
									X																	1	
INTEGUMENTARY SYSTEM																											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Adenocarcinoma																	X	X					X			3	
Adenocarcinoma, Multiple				X																						1	
Adenoma												X														1	
Fibroadenoma			X							X														X		14	
Fibroadenoma, Multiple	X														X							X	X			5	
Lymphoma Malignant									X																	1	
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Subcutaneous Tissue, Fibroma																										1	
MUSCULOSKELETAL SYSTEM																											
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Skeletal Muscle																										1	
Hemangiosarcoma																										1	

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 Route: DOSED FEED
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		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	
HARLAN SPRAGUE DAWLEY RATS FEMALE 0/300 ppm	DAY ON TEST	7	7	6	6	7	7	7	7	5	5	7	7	7	7	7	7	6	7	6	7	7	6	7	6	7	7	
	ANIMAL ID	4	4	3	8	4	4	4	4	8	3	4	4	4	4	4	4	9	3	5	4	3	4	9	1	4	5	
		5	4	8	7	6	5	6	9	3	4	6	4	6	4	5	5	7	9	5	9	5	9	8	5	8	5	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
		9	9	9	9	9	9	9	9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	
		3	4	5	6	7	8	9	0	1	2	3	4	7	8	0												
* TOTALS																												

NERVOUS SYSTEM

Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
-------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymphoma Malignant									X																		1

Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----

Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
---------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Choroid, Lymphoma Malignant									X																		1

Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
-----------------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymphoma Malignant									X																		1
Renal Tubule, Adenoma																											1

Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	49	
Lymphoma Malignant									X																		1

SYSTEMIC LESIONS

* .. Total animals with tissue examined microscopically; Total animals with tumor
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HARLAN SPRAGUE DAWLEY RATS FEMALE	DAY ON TEST		07	07	06	06	07	07	07	07	05	05	07	07	07	07	07	06	07	07	07	06	07	07	* TOTALS
	ANIMAL ID		45	44	38	87	44	44	44	44	83	34	44	44	44	44	44	93	54	43	43	46	55	84	
	0/300 ppm		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
			33	33	33	33	33	33	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	
			34	34	35	67	88	99	00	01	02	33	44	77	88	00	11	22	33	44	55	66	77	88	
Multiple Organ			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Lymphoma Malignant										X														1	

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HARLAN SPRAGUE DAWLEY RATS FEMALE 150/300 ppm	DAY ON TEST																									ANIMAL ID	females (cont...)
	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		
	3	7	7	7	5	6	7	6	7	2	7	7	7	7	7	7	7	7	5	7	7	7	5	7	7	0	
	2	1	4	4	3	3	4	3	4	9	4	4	4	3	4	4	4	4	3	1	4	4	3	8	4	0	
	2	8	6	4	3	4	6	8	5	5	6	4	4	9	5	6	5	4	5	3	8	5	4	9	5	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	
	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	0		
	1	2	3	4	5	6	7	0	1	2	3	4	7	8	9	0	1	3	5	7	8	9	0	2	0		

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Carcinoma, Metastatic, Ovary																									
Cholangioma																									
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

CARDIOVASCULAR SYSTEM

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 150/300 ppm	DAY ON TEST																									ANIMAL ID	females (cont...)
	0 3 2 2	0 7 1 8	0 7 4 6	0 7 4 4	0 5 3 3	0 6 4 4	0 7 4 6	0 6 3 8	0 7 4 5	0 2 9 5	0 7 4 6	0 7 4 4	0 7 4 4	0 7 3 9	0 7 4 5	0 7 4 4	0 7 4 5	0 5 3 3	0 7 1 8	0 7 4 5	0 7 4 4	0 5 4 9	0 7 8 5	0 5 4 9			
	0 0 4 2 1	0 0 4 2 2	0 0 4 2 3	0 0 4 2 4	0 0 4 2 5	0 0 4 2 6	0 0 4 2 7	0 0 4 3 0	0 0 4 3 1	0 0 4 3 2	0 0 4 3 3	0 0 4 3 3	0 0 4 3 4	0 0 4 3 7	0 0 4 3 8	0 0 4 4 9	0 0 4 4 0	0 0 4 4 1	0 0 4 4 3	0 0 4 4 5	0 0 4 4 7	0 0 4 4 8	0 0 4 4 9	0 0 4 5 0	0 0 4 5 2	0 0 4 5 3	

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

ENDOCRINE SYSTEM

Adrenal Cortex Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X
Adrenal Medulla Pheochromocytoma Benign	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Islets, Pancreatic Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid Gland	+	+	+	+	M	+	+	+	+	+	M	+	M	+	+	+	+	+	+	+	+	+	M	+	+	+	
Pituitary Gland Pars Distalis, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thyroid Gland C-cell, Adenoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
C-cell, Adenoma, Multiple					X																						
C-cell, Carcinoma																											

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS FEMALE																								ANIMAL ID	females (cont...)
	0322	0718	0746	0744	0533	0634	0746	0688	0755	0295	0746	0744	0744	0739	0756	0755	0744	0745	0533	0718	0745	0744	0533	0749		
150/300 ppm	0042	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ovary Carcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Uterus Polyp Stromal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Bilateral, Endometrium, Adenocarcinoma																										
Endometrium, Adenocarcinoma																										

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M
Lymph Node, Mesenteric Carcinoma, Metastatic, Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Spleen Carcinoma, Metastatic, Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thymus Adenocarcinoma, Metastatic, Mammary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

INTEGUMENTARY SYSTEM

Mammary Gland Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma																										

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Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

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Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS FEMALE																									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			
2	1	4	4	3	3	4	3	4	5	5	6	4	4	3	4	4	4	4	3	1	4	4	8	4	0			
2	8	6	4	3	4	6	8	5	5	6	4	4	9	5	6	5	4	5	3	8	5	4	9	5	0			
150/300 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0			
	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	0			
	1	2	3	4	5	6	7	0	1	2	3	4	7	8	9	0	1	3	5	7	8	9	0	3	0	females (cont...)		
Fibroadenoma	X		X				X	X										X		X	X			X	X			
Fibroadenoma, Multiple				X								X	X															
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Subcutaneous Tissue, Fibroma								X																				
MUSCULOSKELETAL SYSTEM																												
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Skeletal Muscle																												
Carcinoma, Metastatic, Ovary																												
NERVOUS SYSTEM																												
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
RESPIRATORY SYSTEM																												
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Adenocarcinoma, Metastatic, Mammary Gland																												
Adenocarcinoma, Metastatic, Uterus																												
Carcinoma, Metastatic, Ovary																												
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
SPECIAL SENSES SYSTEM																												
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS	DAY ON TEST																								FEMALE			
	0 3 2 2	0 7 1 8	0 7 4 6	0 7 4 4	0 5 3 3	0 6 3 4	0 7 4 6	0 6 3 8	0 7 4 5	0 2 9 5	0 7 4 6	0 7 4 4	0 7 4 4	0 7 3 9	0 7 4 5	0 7 4 6	0 7 4 5	0 5 3 3	0 7 1 8	0 7 4 5	0 7 4 4	0 5 8 9	0 7 4 5	150/300 ppm		ANIMAL ID		
	0 0 4 2 1	0 0 4 2 2	0 0 4 2 3	0 0 4 2 4	0 0 4 2 5	0 0 4 2 6	0 0 4 2 7	0 0 4 3 0	0 0 4 3 1	0 0 4 3 2	0 0 4 3 3	0 0 4 3 3	0 0 4 3 4	0 0 4 3 7	0 0 4 3 8	0 0 4 4 9	0 0 4 4 0	0 0 4 4 1	0 0 4 4 3	0 0 4 4 5	0 0 4 4 7	0 0 4 4 8	0 0 4 5 9					0 0 4 5 0

Harderian Gland +

URINARY SYSTEM

Kidney +

Adenocarcinoma, Metastatic, Mammary Gland

Carcinoma, Metastatic, Ovary

Lipoma X

Urinary Bladder +

SYSTEMIC LESIONS

Multiple Organ +

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 + .. Tissue examined microscopically
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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 150/300 ppm	DAY ON TEST																									* TOTALS
	0746	0744	0775	0774	0735	0771	0774	0774	0774	0774	0774	0774	0762	0774	0756	0774	0769	0763	0733	0777	0777	0777	0777	0777	0777	
ANIMAL ID	00454	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	
	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	
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	6	4	5	2	1	4	4	4	6	6	6	5	2	4	4	6	4	6	5	8	9	5	5	6	6	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Carcinoma, Metastatic, Ovary									X																1
Cholangioma																									1
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

CARDIOVASCULAR SYSTEM

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Species/Strain: RATS/HSD

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ANIMAL ID	* TOTALS
	7	7	7	7	3	7	7	7	7	7	7	6	7	5	7	6	3	3	7	7	7	7	7	7	7	7	7	7		
HARLAN SPRAGUE DAWLEY RATS FEMALE	4	4	4	4	5	4	1	4	4	4	4	2	4	6	4	6	4	9	6	4	4	4	4	4	4	4	4	4		
150/300 ppm	6	4	5	2	1	4	4	4	6	6	6	5	2	4	4	6	5	8	9	5	5	6	4	5	6	4	5	6		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
	5	5	5	5	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
	4	5	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	0	0		

Blood Vessel + 50

Heart + 50

ENDOCRINE SYSTEM

Adrenal Cortex Adenoma + 50
1

Adrenal Medulla Pheochromocytoma Benign + 50
4

Islets, Pancreatic Adenoma + 50
1

Parathyroid Gland + + M + + M + + + + + + + + M + + + + + + + M + + 42

Pituitary Gland Pars Distalis, Adenoma + 50
13

Thyroid Gland C-cell, Adenoma + 50
7
C-cell, Adenoma, Multiple X 1
C-cell, Carcinoma X 1

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

- * .. Total animals with tissue examined microscopically; Total animals with tumor
- + .. Tissue examined microscopically
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	0746	0744	0774	0774	0773	0775	0771	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774	0774			0774
150/300 ppm	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	004454	50

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Ovary Carcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Uterus Polyp Stromal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 4
Bilateral, Endometrium, Adenocarcinoma																										1
Endometrium, Adenocarcinoma																										1

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Lymph Node, Mesenteric Carcinoma, Metastatic, Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Spleen Carcinoma, Metastatic, Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1
Thymus Adenocarcinoma, Metastatic, Mammary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1

INTEGUMENTARY SYSTEM

Mammary Gland Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 5
Adenoma																										1

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	0746	0744	0774	0774	0735	0774	0774	0774	0774	0774	0774	0774	0762	0774	0756	0774	0769	0763	0733	0774	0774	0774	0774	0774	
ANIMAL ID	00454	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	
Fibroadenoma		X		X			X			X	X					X	X				X	X	X		19
Fibroadenoma, Multiple						X			X		X		X		X										8
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Subcutaneous Tissue, Fibroma																									1
MUSCULOSKELETAL SYSTEM																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Skeletal Muscle																									1
Carcinoma, Metastatic, Ovary																									1
NERVOUS SYSTEM																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
RESPIRATORY SYSTEM																									
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Adenocarcinoma, Metastatic, Mammary Gland					X																				1
Adenocarcinoma, Metastatic, Uterus																X									1
Carcinoma, Metastatic, Ovary								X																	1
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
SPECIAL SENSES SYSTEM																									
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50

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Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 150/300 ppm	DAY ON TEST		ANIMAL ID																				* TOTALS				
	0 7 4 6	0 7 4 4	0 7 4 5	0 7 4 2	0 3 5 1	0 7 4 4	0 7 1 4	0 7 4 4	0 7 4 6	0 7 4 6	0 7 4 6	0 7 4 5	0 6 2 2	0 7 4 4	0 5 6 4	0 7 4 6	0 3 4 5	0 3 4 9	0 7 4 5	0 7 4 5	0 7 4 6	0 7 4 4		0 7 4 5	0 7 4 6		
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
URINARY SYSTEM																											
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Adenocarcinoma, Metastatic, Mammary Gland					X																					1	
Carcinoma, Metastatic, Ovary								X																		1	
Lipoma																										1	
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
SYSTEMIC LESIONS																											
Multiple Organ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/1000 ppm	DAY ON TEST	0744	0744	0744	0706	0774	0750	0774	0729	0669	0665	0229	0774	0774	0774	0443	0773	0774	0774	0665	0379	0774	0669	0665	females (cont...)
	ANIMAL ID	0048	0048	0048	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	

ALIMENTARY SYSTEM

Esophagus	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum Lymphoma Malignant	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum Adenocarcinoma, Metastatic, Uterus	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver Adenocarcinoma, Metastatic, Uterus Carcinoma, Metastatic, Stomach, Glandular Hepatocellular Adenoma Hepatocellular Carcinoma Leukemia Mononuclear Lymphoma Malignant	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mesentery																								
Pancreas Adenocarcinoma, Metastatic, Uterus	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

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+ .. Tissue examined microscopically
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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/1000 ppm	DAY ON TEST																								ANIMAL ID	females (cont...)
	0 7 4 4	0 7 4 4	0 7 4 4	0 0 6 6	0 7 4 5	0 5 0 4	0 7 4 4	0 2 9 8	0 6 9 5	0 6 6 9	0 2 9 3	0 7 4 1	0 7 4 5	0 4 3 8	0 7 2 2	0 7 3 7	0 7 4 4	0 7 4 5	0 6 5 2	0 3 7 9	0 7 4 5	0 6 9 5				
	0 0 4 8 1	0 0 4 8 2	0 0 4 8 3	0 0 4 8 4	0 0 4 8 5	0 0 4 8 6	0 0 4 8 7	0 0 4 8 8	0 0 4 8 8	0 0 4 8 9	0 0 4 9 0	0 0 4 9 2	0 0 4 9 3	0 0 4 9 4	0 0 4 9 5	0 0 4 9 6	0 0 4 9 7	0 0 4 9 8	0 0 4 9 9	0 0 4 9 0	0 0 4 9 1	0 0 4 9 2	0 0 4 9 3	0 0 4 9 4	0 0 4 9 5	

Leukemia Mononuclear
Lymphoma Malignant
Acinus, Adenoma
Acinus, Carcinoma

X

X

X

Salivary Glands

Stomach, Forestomach
Squamous Cell Papilloma

Stomach, Glandular
Carcinoma
Lymphoma Malignant

CARDIOVASCULAR SYSTEM

Blood Vessel

Heart

ENDOCRINE SYSTEM

Adrenal Cortex

Adrenal Medulla
Pheochromocytoma Benign

Islets, Pancreatic
Adenoma

Parathyroid Gland

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS FEMALE 0/1000 ppm	DAY ON TEST																									females (cont...)
	0744	0744	0744	0706	0774	0750	0772	0726	0766	0722	0777	0777	0777	0744	0777	0777	0777	0777	0777	0766	0733	0774	0766	0766		
ANIMAL ID	00481	00482	00483	00484	00485	00486	00487	00488	00489	00490	00491	00492	00493	00494	00495	00496	00497	00498	00499	00500	00501	00502	00503	00504	00505	
Adenoma					X																					
Pituitary Gland Pars Distalis, Adenoma	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Thyroid Gland Carcinoma, Metastatic, Pancreas C-cell, Adenoma C-cell, Carcinoma	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	M	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ovary Adenocarcinoma, Metastatic, Uterus	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Uterus Polyp Stromal Sarcoma Stromal Cervix, Adenocarcinoma Endometrium, Adenocarcinoma	+	+	+	M	+	+	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Vagina Squamous Cell Carcinoma											+	X													

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Lab: BAT

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HARLAN SPRAGUE DAWLEY RATS		7	7	7	0	7	5	7	2	6	6	2	7	7	7	4	7	7	7	7	7	6	3	7	6
FEMALE		4	4	4	6	4	0	4	9	9	6	5	4	4	4	3	2	3	1	4	4	4	5	9	5
0/1000 ppm		4	4	4	6	4	5	4	8	5	9	3	4	1	5	8	2	7	4	5	5	2	9	5	
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5
		8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	0	0	0	0	0	0	0	0	0
		1	2	3	4	5	6	7	8	8	9	2	3	5	6	7	8	0	2	3	4	5	6	8	9

females
(cont...)

HEMATOPOIETIC SYSTEM

Bone Marrow

+ +

Lymph Node

+ +

Adenocarcinoma, Metastatic, Uterus

X

Mediastinal, Adenocarcinoma, Metastatic, Uterus

X

Pancreatic, Adenocarcinoma, Metastatic, Uterus

X

Lymph Node, Mandibular

+ + M M + + + M + + + + + + + M + + + + + + + + +

Lymphoma Malignant

X

Lymph Node, Mesenteric

+ + + M + + + + + + + + + + + X + + + + + + + + +

Adenocarcinoma, Metastatic, Uterus

X

Lymphoma Malignant

X

Spleen

+ + + M +

Leukemia Mononuclear

X

Lymphoma Malignant

X

Thymus

+ + + M +

Adenocarcinoma, Metastatic, Uterus

X

Lymphoma Malignant

X

Neural Crest Tumor

X

INTEGUMENTARY SYSTEM

Mammary Gland

+ + + M + + + + + + + + + + + M + + + + + + + + +

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Perfluorooctanoic Acid

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
| | 0744 | 0744 | 0744 | 0066 | 0744 | 0505 | 0744 | 0298 | 0665 | 0669 | 0233 | 0744 | 0741 | 0745 | 0438 | 0732 | 0737 | 0737 | 0737 | 0662 | 0379 | 0745 | 0669 | | |
| ANIMAL ID | 0048 | 0048 | 0048 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroadenoma | | | X | | | | X | | X | X | | | | | | | | X | X | | X | | X | X | |
| Fibroadenoma, Multiple | | | | | | | | | | | | | | | | | | | X | | | | | | |
| Skin | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Subcutaneous Tissue, Fibrosarcoma | | | | | | | | | | | | | | | | | | | | | | | X | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Vertebra, Osteosarcoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | |
| Osteosarcoma, Metastatic, Bone | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

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Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | DAY ON TEST | 7 | 7 | 7 | 0 | 7 | 5 | 7 | 2 | 6 | 6 | 2 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 7 | 6 | 3 | 7 | 6 |
| | | 4 | 4 | 4 | 6 | 4 | 0 | 4 | 9 | 9 | 6 | 5 | 4 | 4 | 4 | 3 | 2 | 3 | 1 | 4 | 4 | 4 | 5 | 7 | 4 |
| | | 4 | 4 | 4 | 6 | 4 | 5 | 4 | 8 | 5 | 9 | 3 | 4 | 1 | 5 | 8 | 2 | 7 | 4 | 5 | 5 | 5 | 2 | 9 | 5 |
| | 0/1000 ppm | | | | | | | | | | | | | | | | | | | | | | | | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 9 | 2 | 3 | 5 | 6 | 7 | 8 | 0 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

females
(cont...)

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Urinary Bladder | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | X | | | | | | | | | | | | |

SYSTEMIC LESIONS

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear | | | | | | | | | | X | | | | | | | | | | | | | | |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | X | | | | | | | |

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Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| DAY ON TEST | | 4 | 7 | 7 | 7 | 7 | 3 | 7 | 2 | 7 | 7 | 7 | 5 | 6 | 6 | 5 | 7 | 7 | 2 | 5 | 7 | 7 | 7 | 7 | 6 | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | | 8 | 4 | 4 | 4 | 2 | 5 | 3 | 8 | 4 | 4 | 4 | 7 | 2 | 6 | 2 | 4 | 1 | 2 | 4 | 4 | 4 | 4 | 4 | 2 | |
| 0/1000 ppm | | 4 | 5 | 6 | 5 | 1 | 1 | 6 | 4 | 5 | 5 | 6 | 5 | 4 | 9 | 2 | 6 | 8 | 5 | 0 | 6 | 4 | 6 | 6 | 4 | * TOTALS |
| 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 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| | | 0 | 2 | 3 | 5 | 6 | 7 | 8 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 3 | 5 | 6 | 7 | 8 | 0 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Carcinoma, Metastatic, Stomach, Glandular | | | | | | | | X | | | | | | | | | | | | | | | | | | | 1 |
| Hepatocellular Adenoma | | | X | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hepatocellular Carcinoma | | | | | | | | | | | | | | | | | | X | | | | | | | | | 3 |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 7 | 7 | 7 | 7 | 3 | 7 | 2 | 7 | 7 | 7 | 5 | 6 | 6 | 5 | 7 | 7 | 2 | 5 | 7 | 7 | 7 | 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 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| | 0 | 2 | 3 | 5 | 6 | 7 | 8 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 3 | 3 | 5 | 6 | 8 | 9 |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Acinus, Adenoma | | | | | | | | | | | X | | | | | | | | | | | | | 1 |
| Acinus, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Squamous Cell Papilloma | | | | | | | | | | | | | | | | | | | | | | X | | 1 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Carcinoma | | | | X | | | | | | | | | | | | | | | | | | | | 1 |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 48 |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Pheochromocytoma Benign | | | | | | | | | | | | | | | | | | | | | X | | | 2 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Adenoma | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | M | + | + | 46 |

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|
| | 04 | 07 | 07 | 07 | 07 | 03 | 07 | 02 | 07 | 07 | 07 | 05 | 06 | 06 | 05 | 07 | 07 | 02 | 05 | 07 | 07 | 07 | 07 | 06 | |
| ANIMAL ID | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 |
| | 01 | 02 | 03 | 05 | 06 | 07 | 08 | 02 | 01 | 02 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 02 | 03 | 03 | 05 | 06 | 07 | 08 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pars Distalis, Adenoma | | | | X | X | | | | | | | | X | | | X | | | | X | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | |
| Carcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | |
| C-cell, Adenoma | | | | | X | | | | | | | | | | | | | | | | X | | | | |
| C-cell, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Polyp Stromal | | | | X | | | | | | | | | | | | | | | | | X | | | X | |
| Sarcoma Stromal | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cervix, Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endometrium, Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vagina | | | | | | | | | | | | | | | | | | | | | | | | | |
| Squamous Cell Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0/1000 ppm | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS |
| | ANIMAL ID | 4 | 7 | 7 | 4 | 7 | 3 | 7 | 2 | 7 | 7 | 7 | 5 | 6 | 6 | 5 | 7 | 7 | 2 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | |
| | | 8 | 4 | 4 | 4 | 2 | 5 | 3 | 8 | 4 | 4 | 7 | 2 | 6 | 2 | 4 | 1 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | | |
| | | 4 | 5 | 6 | 5 | 1 | 1 | 6 | 4 | 5 | 5 | 6 | 5 | 4 | 9 | 2 | 6 | 8 | 5 | 0 | 6 | 4 | 6 | 4 | 4 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | | |
| | | 0 | 2 | 3 | 5 | 6 | 7 | 8 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 3 | 3 | 5 | 6 | 7 | 9 | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------------------|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Mediastinal, Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Pancreatic, Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymph Node, Mandibular
Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | 45
1 | |
| Lymph Node, Mesenteric
Adenocarcinoma, Metastatic, Uterus
Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | 48
2
1 | |
| Spleen
Leukemia Mononuclear
Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49
1
1 | |
| Thymus
Adenocarcinoma, Metastatic, Uterus
Lymphoma Malignant
Neural Crest Tumor | + | + | + | + | + | M | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | 47
1
1
1 | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

* .. 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: 20614 - 01

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Perfluorooctanoic Acid

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|--|
| | 04 | 07 | 07 | 07 | 07 | 03 | 07 | 02 | 07 | 07 | 07 | 05 | 06 | 06 | 05 | 07 | 07 | 02 | 05 | 07 | 07 | 07 | 07 | 06 | | |
| ANIMAL ID | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | |
| Adenocarcinoma | | | | | | | | | | | | | | | X | | | | | | | | | 1 | | |
| Fibroadenoma | X | | | | | | X | | | | X | | | | | X | X | | X | | | X | X | 17 | | |
| Fibroadenoma, Multiple | | | | | | | | | | | | | X | | | | | | | | | X | | 3 | | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Subcutaneous Tissue, Fibrosarcoma | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Vertebra, Osteosarcoma | | | | | | | | | | | | | | | | X | | | | | | | | 1 | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 48 | | |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Osteosarcoma, Metastatic, Bone | | | | | | | | | | | | | | | | X | | | | | | | | 1 | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | 48 | | |

* .. 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: 20614 - 01

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
0/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 7 | 7 | 7 | 7 | 3 | 7 | 2 | 7 | 7 | 7 | 5 | 6 | 6 | 5 | 7 | 7 | 2 | 5 | 7 | 7 | 7 | 7 | 6 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | 0 | 2 | 3 | 5 | 6 | 7 | 8 | 2 | 2 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 3 | 3 | 5 | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | 1 |

SYSTEMIC LESIONS

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | 0577 | 0656 | 0777 | 0881 | 0944 | 1044 | 1177 | 1266 | 1344 | 1477 | 1566 | 1644 | 1777 | 1866 | 1944 | 2077 | 2166 | 2244 | 2377 | 2466 | 2544 | 2677 | 2766 | 2844 | 2977 | 3066 | 3144 | 3277 | |
| | ANIMAL ID | 0054 | 0053 | 0054 | 0055 | 0054 | 0056 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0055 | 0056 | 0056 | 0053 | 0054 | 0056 | 0056 | 0056 | 0057 | 0058 | 0059 | 0060 |
| | | 074 | 066 | 046 | 089 | 087 | 055 | 045 | 045 | 033 | 022 | 044 | 011 | 055 | 044 | 022 | 044 | 077 | 077 | 066 | 077 | 044 | 044 | 045 | 073 | 044 | 074 | 063 | 074 | 067 |

females
(cont...)

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Pancreas | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Pancreas | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Pancreas | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma, Metastatic, Uterus | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cholangioma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hepatocellular Adenoma | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| Hepatocellular Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Squamous Cell Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. 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: 20614 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 Perfluorooctanoic Acid
 CAS Number: 335-67-1

Date Report Requested: 07/25/2018
 Time Report Requested: 12:58:26
 First Dose M/F: 10/27/08 / 10/28/08
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|----------------------|------------------|------------------|
| | 0
5
7
4 | 0
7
4
6 | 0
7
4
6 | 0
6
8
3 | 0
5
8
9 | 0
6
1
7 | 0
7
4
5 | 0
7
4
5 | 0
6
7
3 | 0
4
7
2 | 0
7
4
4 | 0
6
8
1 | 0
7
4
5 | 0
6
6
4 | 0
6
2
4 | 0
4
5
4 | 0
7
4
4 | 0
7
1
8 | 0
6
4
6 | 0
7
4
3 | 0
7
4
4 | 0
7
4
5 | 0
6
7
3 | | | 0
6
4
4 | 0
6
7
3 |
| Acinus, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Acinus, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Duct, Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| Leiomyosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Squamous Cell Papilloma | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leiomyosarcoma, Metastatic, Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pheochromocytoma Benign | | | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Pheochromocytoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------------------------------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 5 | 7 | 7 | 6 | 5 | 6 | 7 | 7 | 6 | 4 | 7 | 6 | 7 | 6 | 4 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 6 | 6 |
| | | 7 | 4 | 4 | 8 | 8 | 1 | 4 | 4 | 7 | 7 | 4 | 8 | 4 | 2 | 2 | 5 | 4 | 1 | 4 | 7 | 4 | 4 | 4 | 7 |
| ANIMAL ID | 4 | 6 | 6 | 3 | 9 | 7 | 5 | 5 | 3 | 2 | 4 | 1 | 5 | 4 | 4 | 4 | 4 | 8 | 6 | 3 | 4 | 4 | 5 | 3 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | | |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 3 | 4 | 6 | 8 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| Adenoma | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | + | + | + | M | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Pars Distalis, Adenoma | | | | | X | | | | | X | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Bilateral, C-cell, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C-cell, Adenoma | | | X | | | X | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Pancreas | X | | | | | | | | | | | | | | | | | | | | | | | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma, Metastatic, Pancreas | X | | | | | | | | | | | | | | | | | | | | | | | |
| Polyp Stromal | | | | | | | | | | | | | | | X | | | | | | | | | X |
| Endometrium, Adenocarcinoma | | | X | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

Bone Marrow +

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE 300/1000 ppm | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females (cont...) |
|-------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|-------------------|
| | 0574 | 0774 | 0774 | 0688 | 0588 | 0671 | 0774 | 0774 | 0677 | 0477 | 0676 | 0777 | 0676 | 0474 | 0677 | 0777 | 0677 | 0676 | 0777 | 0677 | 0777 | 0677 | 0676 | 0676 | | |
| ANIMAL ID | 0054 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |

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

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung
Pheochromocytoma Malignant, Metastatic,
Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Zymbal's Gland
Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney
Adenocarcinoma, Metastatic, Pancreas
Renal Tubule, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Urinary Bladder
Adenocarcinoma, Metastatic, Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | 0574 | 0774 | 0774 | 0683 | 0589 | 0617 | 0744 | 0744 | 0675 | 0475 | 0672 | 0741 | 0674 | 0664 | 0474 | 0774 | 0673 | 0744 | 0744 | 0744 | 0675 | 0673 | 0674 | females
(cont...) |
| | ANIMAL ID | 00542 | 00543 | 00544 | 00545 | 00546 | 00547 | 00548 | 00549 | 00550 | 00551 | 00552 | 00553 | 00554 | 00555 | 00556 | 00557 | 00558 | 00559 | 00560 | 00561 | 00562 | 00563 | 00564 | |

SYSTEMIC LESIONS

Multiple Organ
Leukemia Mononuclear

+
 X

* .. 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: 20614 - 01

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Route: DOSED FEED

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Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|-------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | 0745 | 0690 | 0508 | 0714 | 0313 | 0475 | 0764 | 0673 | 0764 | 0673 | 0734 | 0673 | 0749 | 0634 | 0444 | 0774 | 0474 | 0774 | 0667 | 0667 | 0745 | |
| | ANIMAL ID | 00569 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 | 00557 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | * TOTALS | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Cholangioma | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Hepatocellular Adenoma | | | | | | | | | | | | | | | | | | | | | | | X | 3 |
| Hepatocellular Carcinoma | | | | | | | | | | | | | | X | | | | | | X | | | X | 4 |
| Leukemia Mononuclear | X | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Squamous Cell Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. 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: 20614 - 01

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Route: DOSED FEED

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Perfluorooctanoic Acid

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| | 0745 | 0748 | 0751 | 0754 | 0757 | 0760 | 0763 | 0766 | 0769 | 0772 | 0775 | 0778 | 0781 | 0784 | 0787 | 0790 | 0793 | 0796 | 0799 | 0802 | 0805 | 0808 | 0811 | 0814 | |
| ANIMAL ID | 00569 | 00557 | 00555 | 00553 | 00551 | 00549 | 00547 | 00545 | 00543 | 00541 | 00539 | 00537 | 00535 | 00533 | 00531 | 00529 | 00527 | 00525 | 00523 | 00521 | 00519 | 00517 | 00515 | 00513 | |
| Acinus, Adenoma | | | | | | | | | | | | | | | | | | | | | X | | | X | 3 |
| Acinus, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Duct, Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Leiomyosarcoma | | | | | | | | | | | | | | | | | | | | | | | X | 1 | |
| Squamous Cell Papilloma | | | | | | | | | | | | | | | | | | | | | | | X | 1 | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Leiomyosarcoma, Metastatic, Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | X | 1 | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Pheochromocytoma Benign | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Pheochromocytoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | * TOTALS | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|------|
| | 0745 | 0690 | 0508 | 0746 | 0183 | 0349 | 0457 | 0064 | 0073 | 0064 | 0073 | 0064 | 0073 | 0064 | 0073 | 0064 | 0073 | 0064 | 0073 | 0064 | | 0073 |
| ANIMAL ID | 00569 | 00557 | 00555 | 00555 | 00555 | 00557 | 00557 | 00557 | 00557 | 00558 | 00558 | 00558 | 00558 | 00558 | 00558 | 00558 | 00558 | 00558 | 00558 | 00558 | 00558 | |
| Adenoma | | | | | | | | | | | | X | | | | | | | | | | 2 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Adenoma | | | | | | | | | | | | X | | | X | | X | | | | | 5 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Bilateral, C-cell, Adenoma | | | | | | | | | | | | | | | | | X | | | | | 1 |
| C-cell, Adenoma | | | | | | | | | | X | | | | | | | | | | | | 3 |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | | | |
| GENITAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | 1 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | 1 |
| Polyp Stromal | | | | | | | | | | | | | | | | | | | X | | | 3 |
| Endometrium, Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | 1 |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

Time Report Requested: 12:58:26

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|----------------------------|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| | 7 | 6 | 5 | 7 | 1 | 3 | 4 | 7 | 6 | 7 | 6 | 7 | 3 | 7 | 6 | 4 | 7 | 7 | 4 | 7 | 7 | 7 | 6 | 6 | 7 | 7 | 4 | |
| HARLAN SPRAGUE DAWLEY RATS | 4 | 9 | 0 | 4 | 8 | 9 | 5 | 4 | 3 | 4 | 9 | 4 | 3 | 4 | 4 | 4 | 4 | 9 | 4 | 4 | 4 | 4 | 7 | 7 | 4 | 4 | 4 | |
| FEMALE | 5 | 0 | 8 | 6 | 3 | 1 | 7 | 6 | 4 | 6 | 5 | 5 | 3 | 4 | 8 | 0 | 4 | 4 | 1 | 4 | 4 | 6 | 6 | 7 | 4 | 5 | | |
| 300/1000 ppm | 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 | |
| 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 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | |
| | 9 | 0 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| | * TOTALS | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Lymph Node
Pancreatic, Sarcoma, Metastatic, Stomach,
Fore stomach | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | 1 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | 1 | |
| Lymph Node, Mandibular | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Lymph Node, Mesenteric | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Spleen
Leukemia Mononuclear | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | 1 | |
| Thymus | + | + | + | + | M | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | X | | | | | | | | | X | | | | | X | | | | | | | | | | | | | | 4 |
| Adenoma | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | 1 |
| Fibroadenoma | | | | | | | | | X | | | X | | X | | | | | X | | | | | | X | | | | 10 |
| Fibroadenoma, Multiple | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | 2 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Fibrosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

NERVOUS SYSTEM

* .. 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: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | * TOTALS | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--|--|
| | 0745 | 0690 | 0508 | 0748 | 0139 | 0345 | 0474 | 0676 | 0764 | 0834 | 0945 | 1056 | 1167 | 1278 | 1389 | 1490 | 1501 | 1612 | 1723 | 1834 | 1945 | 2056 | 2167 | 2278 | | | |
| ANIMAL ID | 00569 | 00572 | 00573 | 00574 | 00575 | 00576 | 00577 | 00578 | 00579 | 00580 | 00581 | 00582 | 00583 | 00584 | 00585 | 00586 | 00587 | 00588 | 00589 | 00590 | 00591 | 00592 | 00593 | 00594 | 00595 | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Pheochromocytoma Malignant, Metastatic, Adrenal Medulla | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | X | 1 | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Renal Tubule, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Adenocarcinoma, Metastatic, Pancreas | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |

* .. 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: 20614 - 01

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| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
300/1000 ppm | DAY ON TEST | 0745 | 0690 | 0508 | 0714 | 0313 | 0478 | 0764 | 0673 | 0764 | 0673 | 0764 | 0374 | 0673 | 0478 | 0764 | 0764 | 0478 | 0764 | 0764 | 0673 | 0673 | 0745 | * TOTALS |
| | ANIMAL ID | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | 0076 | 0077 | |
| | | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | 0076 | 0077 | |

SYSTEMIC LESIONS

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Leukemia Mononuclear | X | | | | | | | | | | | | | | | | | | | | | | | 2 |

*** END OF REPORT ***

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