

Experiment Number: 20614 - 01

**P05: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS
ABRIDGED) (a)**

Date Report Requested: 07/25/2018

Test Type: CHRONIC

Perfluorooctanoic Acid

Time Report Requested: 12:58:26

Route: DOSED FEED

CAS Number: 335-67-1

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

Species/Strain: RATS/HSD

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	0/300 ppm	150/300 ppm	0/1000 ppm	300/1000 ppm
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Disposition Summary

Animals Initially In Study	60	60	60	60	60
Early Deaths					
Moribund Sacrifice	15	16	11	20	17
Natural Death	12	6	7	7	10
Survivors					
Natural Death		2			1
Terminal Sacrifice	23	26	32	23	22
Animals Examined Microscopically	50	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(48)	(50)
Intestine Large, Cecum	(50)	(49)	(50)	(49)	(50)
Intestine Large, Colon	(50)	(49)	(50)	(49)	(50)
Intestine Large, Rectum	(50)	(49)	(50)	(49)	(50)
Intestine Small, Duodenum	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Intestine Small, Ileum	(50)	(49)	(50)	(49)	(50)
Intestine Small, Jejunum	(50)	(49)	(50)	(49)	(50)
Adenocarcinoma	1 (2%)				
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Adenocarcinoma, Metastatic, Uterus				1 (2%)	
Liver	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Adenocarcinoma, Metastatic, Uterus				3 (6%)	1 (2%)
Carcinoma, Metastatic, Ovary			1 (2%)		
Carcinoma, Metastatic, Stomach, Glandular				1 (2%)	
Cholangiocarcinoma		1 (2%)			
Cholangioma			1 (2%)		1 (2%)
Cholangioma, Multiple	1 (2%)				
Hepatocellular Adenoma	2 (4%)			1 (2%)	3 (6%)
Hepatocellular Carcinoma	1 (2%)	1 (2%)		3 (6%)	4 (8%)
Mesentery	(2)	(0)	(0)	(2)	(0)
Oral Mucosa	(0)	(0)	(0)	(0)	(1)

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Squamous Cell Carcinoma					1 (100%)
Pancreas	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Uterus				3 (6%)	
Acinus, Adenoma				1 (2%)	3 (6%)
Acinus, Carcinoma				1 (2%)	1 (2%)
Duct, Adenocarcinoma					1 (2%)
Salivary Glands	(49)	(50)	(50)	(48)	(50)
Stomach, Forestomach	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Leiomyosarcoma					1 (2%)
Squamous Cell Papilloma				1 (2%)	1 (2%)
Stomach, Glandular	(50)	(50)	(50)	(49)	(50)
Carcinoma				1 (2%)	
Leiomyosarcoma, Metastatic, Stomach, Forestomach					1 (2%)
CARDIOVASCULAR SYSTEM					
Blood Vessel	(50)	(50)	(50)	(49)	(50)
Heart	(50)	(50)	(50)	(48)	(50)
ENDOCRINE SYSTEM					
Adrenal Cortex	(50)	(50)	(50)	(49)	(50)
Adenoma	2 (4%)	2 (4%)	1 (2%)		
Adrenal Medulla	(50)	(50)	(50)	(49)	(50)
Pheochromocytoma Benign	1 (2%)	3 (6%)	4 (8%)	2 (4%)	1 (2%)
Pheochromocytoma Malignant					1 (2%)
Islets, Pancreatic	(50)	(50)	(50)	(49)	(50)
Adenoma	1 (2%)	1 (2%)	1 (2%)	1 (2%)	2 (4%)
Parathyroid Gland	(47)	(47)	(42)	(46)	(48)
Adenoma				1 (2%)	
Pituitary Gland	(50)	(50)	(50)	(49)	(50)
Pars Distalis, Adenoma	22 (44%)	11 (22%)	13 (26%)	8 (16%)	5 (10%)
Thyroid Gland	(50)	(50)	(50)	(48)	(50)

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Carcinoma, Metastatic, Pancreas				1 (2%)	
Bilateral, C-cell, Adenoma	2 (4%)	1 (2%)			1 (2%)
C-cell, Adenoma	6 (12%)	10 (20%)	7 (14%)	3 (6%)	3 (6%)
C-cell, Adenoma, Multiple	1 (2%)		1 (2%)		
C-cell, Carcinoma	1 (2%)		1 (2%)	1 (2%)	

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Clitoral Gland	(50)	(49)	(50)	(48)	(50)
Carcinoma	1 (2%)				
Ovary	(50)	(49)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Adenocarcinoma, Metastatic, Uterus				1 (2%)	
Carcinoma			1 (2%)		
Granulosa Cell Tumor Benign	1 (2%)				
Granulosa Cell Tumor Malignant		1 (2%)			
Oviduct	(0)	(1)	(0)	(0)	(0)
Uterus	(50)	(49)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Polyp Stromal	5 (10%)	4 (8%)	4 (8%)	5 (10%)	3 (6%)
Polyp Stromal, Multiple	1 (2%)				
Sarcoma Stromal				1 (2%)	
Bilateral, Endometrium, Adenocarcinoma			1 (2%)		
Cervix, Adenocarcinoma				1 (2%)	
Endometrium, Adenocarcinoma		1 (2%)	1 (2%)	3 (6%)	1 (2%)
Endometrium, Adenoma		1 (2%)			
Vagina	(0)	(0)	(0)	(1)	(0)
Squamous Cell Carcinoma				1 (100%)	

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HEMATOPOIETIC SYSTEM					
Bone Marrow	(50)	(50)	(50)	(50)	(50)
Carcinoma, Metastatic, Nose	1 (2%)				
Lymph Node	(1)	(3)	(0)	(3)	(1)
Adenocarcinoma, Metastatic, Uterus				1 (33%)	
Axillary, Adenocarcinoma, Metastatic, Mammary Gland		1 (33%)			
Mediastinal, Adenocarcinoma, Metastatic, Uterus				1 (33%)	
Pancreatic, Adenocarcinoma, Metastatic, Uterus				1 (33%)	
Pancreatic, Sarcoma, Metastatic, Stomach, Forestomach					1 (100%)
Lymph Node, Mandibular	(48)	(49)	(49)	(45)	(48)
Lymph Node, Mesenteric	(49)	(48)	(50)	(48)	(48)
Adenocarcinoma, Metastatic, Uterus				2 (4%)	
Carcinoma, Metastatic, Ovary			1 (2%)		
Spleen	(50)	(50)	(50)	(49)	(50)
Carcinoma, Metastatic, Ovary			1 (2%)		
Thymus	(49)	(48)	(50)	(47)	(47)
Adenocarcinoma, Metastatic, Mammary Gland			1 (2%)		
Adenocarcinoma, Metastatic, Uterus				1 (2%)	
Neural Crest Tumor				1 (2%)	
INTEGUMENTARY SYSTEM					
Mammary Gland	(50)	(50)	(50)	(48)	(50)
Adenocarcinoma	3 (6%)	3 (6%)	5 (10%)	1 (2%)	4 (8%)
Adenocarcinoma, Multiple		1 (2%)			
Adenoma	1 (2%)	1 (2%)	1 (2%)		1 (2%)
Fibroadenoma	12 (24%)	14 (28%)	19 (38%)	17 (35%)	10 (20%)
Fibroadenoma, Multiple	9 (18%)	5 (10%)	8 (16%)	3 (6%)	2 (4%)
Skin	(50)	(50)	(50)	(49)	(50)
Subcutaneous Tissue, Fibroma		1 (2%)	1 (2%)		
Subcutaneous Tissue, Fibrosarcoma				1 (2%)	1 (2%)

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Subcutaneous Tissue, Sarcoma	1 (2%)				
MUSCULOSKELETAL SYSTEM					
Bone	(50)	(50)	(50)	(50)	(50)
Femur, Osteosarcoma	1 (2%)				
Vertebra, Osteosarcoma				1 (2%)	
Skeletal Muscle	(0)	(1)	(1)	(2)	(0)
Adenocarcinoma, Metastatic, Uterus				2 (100%)	
Carcinoma, Metastatic, Ovary			1 (100%)		
Hemangiosarcoma		1 (100%)			
NERVOUS SYSTEM					
Brain	(50)	(50)	(50)	(49)	(50)
Peripheral Nerve	(0)	(0)	(0)	(1)	(0)
Spinal Cord	(1)	(0)	(0)	(0)	(0)
Astrocytoma Malignant	1 (100%)				
RESPIRATORY SYSTEM					
Lung	(50)	(50)	(50)	(48)	(50)
Adenocarcinoma, Metastatic, Mammary Gland	1 (2%)		1 (2%)		
Adenocarcinoma, Metastatic, Uterus			1 (2%)	2 (4%)	
Astrocytoma Malignant, Metastatic, Spinal Cord	1 (2%)				
Carcinoma, Metastatic, Ovary			1 (2%)		
Osteosarcoma, Metastatic, Bone				1 (2%)	
Pheochromocytoma Malignant, Metastatic, Adrenal Medulla					1 (2%)
Nose	(50)	(50)	(50)	(50)	(50)
Glands, Carcinoma	1 (2%)				
Trachea	(50)	(50)	(50)	(48)	(50)

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SPECIAL SENSES SYSTEM					
Eye	(50)	(50)	(50)	(50)	(50)
Harderian Gland	(50)	(50)	(50)	(49)	(50)
Zymbal's Gland	(0)	(0)	(0)	(0)	(1)
Carcinoma					1 (100%)
URINARY SYSTEM					
Kidney	(50)	(50)	(50)	(49)	(50)
Adenocarcinoma, Metastatic, Mammary Gland	1 (2%)		1 (2%)		
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Carcinoma, Metastatic, Ovary			1 (2%)		
Lipoma			1 (2%)		
Renal Tubule, Adenoma		1 (2%)			1 (2%)
Urinary Bladder	(50)	(49)	(50)	(48)	(50)
Adenocarcinoma, Metastatic, Pancreas					1 (2%)
Adenocarcinoma, Metastatic, Uterus				1 (2%)	
SYSTEMIC LESIONS					
Multiple Organ	*(50)	*(50)	*(50)	*(50)	*(50)
Leukemia Mononuclear	1 (2%)			1 (2%)	2 (4%)
Lymphoma Malignant	1 (2%)	1 (2%)		1 (2%)	

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* Number of animals with any tissue examined microscopically

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Tumor Summary for Females

Total Animals with Primary Neoplasms (b)	46	38	43	36	35
Total Primary Neoplasms	80	65	71	61	55
Total Animals with Benign Neoplasms	38	35	37	31	27
Total Benign Neoplasms	67	55	62	43	37
Total Animals with Malignant Neoplasms	12	10	9	15	16
Total Malignant Neoplasms	13	10	9	17	18
Total Animals with Metastatic Neoplasms	4	1	3	5	4
Total Metastatic Neoplasms	4	1	10	22	12
Total Animals with Malignant Neoplasms Uncertain Primary Site					
Total Animals with Neoplasms Uncertain- Benign or Malignant				1	
Total Uncertain Neoplasms				1	

*** END OF REPORT ***

a - Number of animals examined microscopically at site and number of animals with lesion

b - Primary tumors: all tumors except metastatic tumors