Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Perfluorooctanoic Acid CAS Number: 335-67-1

Time Report Requested: 12:59:28
First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Final 1_16 Week SSAC Only

NTP Study Number: C20614

Lock Date: 01/10/2012

Cage Range: ALL

Date Range: ALL

Reasons For Removal: 25017 SSAC

Removal Date Range: ALL

Treatment Groups: Include ALL

Study Gender: Both

TDMSE Version: 3.0.2.3_002

PWG Approval Date: 07/25/2018

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

Experiment Number: 20614 - 01

Perfluorooctanoic Acid CAS Number: 335-67-1

Time Report Requested: 12:59:28 First Dose M/F: 10/27/08 / 10/28/08

Harlan Sprague Dawley RATS MALE	0/0 ppm	0/150 ppm	150/150 ppm	0/300 ppm	300/300 ppm	
Disposition Summary						
Animals Initially In Study	60	60	60	60	60	
Scheduled Sacrifice	10	10	10	10	10	
Early Deaths						
Survivors						
Animals Examined Microscopically	10	10	10	10	10	
ALIMENTARY SYSTEM						
Esophagus	(10)	(10)	(10)	(10)	(10)	
Intestine Large, Cecum	(10)	(10)	(10)	(10)	(10)	
Intestine Large, Colon	(10)	(10)	(10)	(10)	(10)	
Intestine Large, Rectum	(10)	(10)	(10)	(10)	(10)	
Intestine Small, Duodenum	(10)	(10)	(10)	(10)	(10)	
Intestine Small, Ileum	(10)	(10)	(10)	(10)	(10)	
Intestine Small, Jejunum	(10)	(10)	(10)	(10)	(10)	
Liver	(10)	(10)	(10)	(10)	(10)	
Clear Cell Focus		1			2	
Extramedullary Hematopoiesis		1 [1.0]				
Fibrosis, Focal					1 [1.0]	
Inflammation, Focal	8 [1.0]	9 [1.0]	9 [1.0]	8 [1.0]	8 [1.4]	
Necrosis		6 [1.2]	2 [1.5]	2 [1.0]	4 [1.8]	
Pigment		8 [1.1]	9 [1.2]	10 [2.0]	10 [1.9]	
Bile Duct, Hyperplasia				1 [1.0]	2 [1.0]	
Centrilobular, Hepatocyte, Hypertrophy				4 [2.5]		
Hepatocyte, Cytoplasmic Alteration		10 [2.2]	10 [2.1]	10 [2.6]	10 [2.8]	
Hepatocyte, Hypertrophy		10 [2.1]	10 [1.9]	6 [2.5]	10 [1.6]	
Hepatocyte, Single Cell Death		10 [1.3]	9 [1.1]	10 [1.0]	10 [1.0]	
Pancreas	(10)	(10)	(10)	(10)	(10)	
Salivary Glands	(10)	(10)	(10)	(10)	(10)	
Stomach, Forestomach	(10)	(10)	(10)	(10)	(10)	
Epithelium, Hyperplasia					2 [3.0]	
Submucosa, Inflammation, Chronic Active					3 [1.7]	
Stomach, Glandular	(10)	(10)	(10)	(10)	(10)	
Epithelium, Erosion				1 [1.0]		

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

Perfluorooctanoic Acid CAS Number: 335-67-1

Time Report Requested: 12:59:28 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Harlan Sprague Dawley RATS MALE	0/0 ppm	0/150 ppm	150/150 ppm	0/300 ppm	300/300 ppm	
Submucosa, Inflammation, Chronic Active		2 [1.0]	2 [1.0]	5 [1.0]	2 [1.0]	
CARDIOVASCULAR SYSTEM						
Blood Vessel Heart Cardiomyopathy	(10) (10) 4 [1.0]	(10) (10)	(10) (10)	(10) (10)	(10) (10)	
ENDOCRINE SYSTEM						
Adrenal Cortex	(10)	(10)	(10)	(10)	(10)	
Hyperplasia	1 [2.0]					
Hypertrophy	2 [1.0]	1 [2.0]				
Vacuolization Cytoplasmic				1 [1.0]		
Adrenal Medulla	(10)	(10)	(10)	(10)	(10)	
Islets, Pancreatic	(10)	(10)	(10)	(10)	(10)	
Parathyroid Gland Atrophy	(10)	(9)	(9)	(10) 1 [2.0]	(8)	
Pituitary Gland	(10)	(10)	(10)	(10)	(10)	
Cyst	(10)	(10)	(10)	1	(10)	
Pars Distalis, Cyst		1		ı		
Rathke's Cleft, Hyperplasia, Tubular		ı	1 [2.0]			
Thyroid Gland	(10)	(10)	(10)	(10)	(10)	
Follicular Cell, Hypertrophy	(10)	2 [1.0]	(10)	6 [1.0]	2 [1.0]	

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Epididymis	(10)	(10)	(10)	(10)	(10)
Preputial Gland	(10)	(10)	(10)	(10)	(10)

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Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Perfluorooctanoic Acid CAS Number: 335-67-1

Time Report Requested: 12:59:28 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Harlan Sprague Dawley RATS MALE	0/0 ppm	0/150 ppm	150/150 ppm	0/300 ppm	300/300 ppm	
Prostate	(10)	(10)	(10)	(10)	(10)	
Hyperplasia					1 [1.0]	
Seminal Vesicle	(10)	(10)	(10)	(10)	(10)	
Testes	(10)	(10)	(10)	(10)	(10)	
HEMATOPOIETIC SYSTEM						
Bone Marrow	(10)	(10)	(10)	(10)	(10)	
Lymph Node, Mandibular	(10)	(10)	(10)	(10)	(10)	
Atrophy		2 [1.0]	2 [1.0]	1 [2.0]	1 [2.0]	
Lymph Node, Mesenteric	(10)	(10)	(10)	(10)	(10)	
Atrophy				1 [3.0]	2 [1.5]	
Spleen	(10)	(10)	(10)	(10)	(10)	
Extramedullary Hematopoiesis					2 [1.0]	
Lymphoid Follicle, Atrophy	41.51	()		3 [1.3]	1 [1.0]	
Thymus	(10)	(10)	(10)	(10)	(10)	
Atrophy	1 [1.0]			3 [1.0]	2 [1.5]	
INTEGUMENTARY SYSTEM						
Mammary Gland	(10)	(10)	(10)	(10)	(10)	
Skin	(10)	(10)	(10)	(10)	(10)	
				(- /		
MUSCULOSKELETAL SYSTEM						
Bone	(10)	(10)	(10)	(10)	(10)	
NERVOUS SYSTEM						
Brain	(10)	(10)	(10)	(10)	(10)	
Dialii	(10)	(10)	(10)	(10)	(10)	

RESPIRATORY SYSTEM

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Perfluorooctanoic Acid CAS Number: 335-67-1 Time Report Requested: 12:59:28

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

Harlan Sprague Dawley RATS MALE	0/0 ppm	0/150 ppm	150/150 ppm	0/300 ppm	300/300 ppm	
Lung	(10)	(10)	(10)	(10)	(10)	
Inflammation, Chronic Active		1 [1.0]	1 [1.0]	1 [1.0]		
Alveolus, Infiltration Cellular, Histiocyte		1 [1.0]	1 [1.0]			
Nose	(10)	(10)	(10)	(10)	(10)	
Trachea	(10)	(10)	(10)	(10)	(10)	
SPECIAL SENSES SYSTEM						
Eye	(10)	(10)	(10)	(10)	(10)	
Harderian Gland	(10)	(10)	(10)	(10)	(10)	
URINARY SYSTEM						
Kidney	(10)	(10)	(10)	(10)	(10)	
Accumulation, Hyaline Droplet	2 [1.0]	, ,	, ,	, ,	, ,	
Fibrosis, Focal				1 [1.0]		
Mineral			1 [1.0]			
Nephropathy, Chronic Progressive	10 [1.5]	4 [1.0]	7 [1.0]	4 [1.0]	5 [1.0]	
Pelvis, Dilation	1 [1.0]		1 [2.0]			
Renal Tubule, Dilation					1 [1.0]	
Renal Tubule, Mineral		4 [1.0]	1 [1.0]	5 [1.0]	6 [1.0]	
Urinary Bladder	(10)	(10)	(10)	(10)	(10)	

^{***} END OF MALE ***

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P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

Experiment Number: 20614 - 01

Perfluorooctanoic Acid **CAS Number:** 335-67-1

Time Report Requested: 12:59:28 First Dose M/F: 10/27/08 / 10/28/08

Harlan Sprague Dawley RATS FEMALE	0/0 ppm	0/300 ppm	150/300 ppm	0/1000 ppm	300/1000 ppm	
Disposition Summary						
Animals Initially In Study	60	60	60	60	60	
Scheduled Sacrifice	10	10	10	10	10	
Early Deaths						
Survivors						
Animals Examined Microscopically	10	10	10	10	10	
ALIMENTARY SYSTEM						
Esophagus	(10)	(10)	(10)	(10)	(10)	
Intestine Large, Cecum	(10)	(10)	(10)	(10)	(10)	
Intestine Large, Colon	(10)	(10)	(10)	(10)	(10)	
Intestine Large, Rectum	(10)	(10)	(10)	(10)	(10)	
Intestine Small, Duodenum	(10)	(10)	(10)	(10)	(10)	
Intestine Small, Ileum	(10)	(10)	(10)	(10)	(10)	
Intestine Small, Jejunum	(10)	(10)	(10)	(10)	(10)	
Liver	(10)	(10)	(10)	(10)	(10)	
Extramedullary Hematopoiesis				1 [1.0]		
Inflammation, Focal	6 [1.0]	6 [1.0]	10 [1.0]	8 [1.0]	6 [1.0]	
Necrosis				2 [2.5]		
Pigment				2 [1.0]	6 [1.0]	
Bile Duct, Hyperplasia		1 [1.0]		1 [1.0]		
Hepatocyte, Cytoplasmic Alteration				10 [1.3]	10 [2.0]	
Hepatocyte, Hypertrophy				10 [1.4]	10 [2.0]	
Hepatocyte, Single Cell Death				1 [1.0]		
Pancreas	(10)	(10)	(10)	(10)	(10)	
Salivary Glands	(10)	(10)	(10)	(10)	(10)	
Stomach, Forestomach	(10)	(10)	(10)	(10)	(10)	
Submucosa, Inflammation, Chronic Active		1 [1.0]				
Stomach, Glandular	(10)	(10)	(10)	(10)	(10)	
CARDIOVASCULAR SYSTEM						
Blood Vessel	(10)	(10)	(10)	(10)	(10)	

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

Perfluorooctanoic Acid CAS Number: 335-67-1

Time Report Requested: 12:59:28 First Dose M/F: 10/27/08 / 10/28/08

Harlan Sprague Dawley RATS FEMALE	0/0 ppm	0/300 ppm	150/300 ppm	0/1000 ppm	300/1000 ppm	
Inflammation, Chronic	1 [1.0]					
Heart	(10)	(10)	(10)	(10)	(10)	
ENDOCRINE SYSTEM						
Adrenal Cortex	(10)	(10)	(10)	(10)	(10)	
Adrenal Medulla	(10)	(10)	(10)	(10)	(10)	
Islets, Pancreatic	(10)	(10)	(10)	(10)	(10)	
Parathyroid Gland	(10)	(10)	(10)	(9)	(10)	
Pituitary Gland	(10)	(10)	(10)	(10)	(10)	
Thyroid Gland	(10)	(10)	(10)	(10)	(10)	
Ectopic Thymus					1	
Follicular Cell, Hypertrophy				1 [1.0]	4 [1.3]	
GENERAL BODY SYSTEM			,			
None						
GENITAL SYSTEM						
Clitoral Gland	(10)	(10)	(10)	(10)	(10)	
Ovary	(10)	(10)	(10)	(10)	(10)	
Cyst	4	1	3		1	
Uterus	(10)	(10)	(10)	(10)	(10)	
Endometrium, Hyperplasia, Cystic	1 [1.0]					
HEMATOPOIETIC SYSTEM						
Bone Marrow	(10)	(10)	(10)	(10)	(10)	
Lymph Node	(0)	(0)	(0)	(2)	(0)	
Bronchial, Hemorrhage	. ,	. ,	. ,	1 [2.0]	• •	
Lymph Node, Mandibular	(10)	(10)	(10)	(10)	(10)	
Atrophy				1 [2.0]	1 [2.0]	

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

Perfluorooctanoic Acid CAS Number: 335-67-1

Time Report Requested: 12:59:28 First Dose M/F: 10/27/08 / 10/28/08

Harlan Sprague Dawley RATS FEMALE	0/0 ppm	0/300 ppm	150/300 ppm	0/1000 ppm	300/1000 ppm	
Atrophy, Lymphocyte			1 [1.0]	1 [1.0]		
Atrophy, Lymphoid				1 [2.0]		
Lymph Node, Mesenteric	(10)	(10)	(10)	(9)	(10)	
Atrophy, Lymphocyte		1 [1.0]			3 [1.3]	
Spleen	(10)	(10)	(10)	(10)	(10)	
Extramedullary Hematopoiesis	2 [1.0]				1 [1.0]	
Pigment	10 [1.0]	7 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]	
Thymus	(10)	(10)	(10)	(10)	(10)	
INTEGUMENTARY SYSTEM						
Mammary Gland	(10)	(10)	(10)	(10)	(10)	
Skin	(10)	(10)	(10)	(10)	(10)	
	(10)	(10)	(.0)	(13)		
MUSCULOSKELETAL SYSTEM						
Bone	(10)	(10)	(10)	(10)	(10)	
NERVOUS SYSTEM						
Brain	(10)	(10)	(10)	(10)	(10)	
Cerebrum, Necrosis, Chronic	(10)	(10)	(10)	(10)	1 [2.0]	
Corosiani, reciccio, Cincino					1 [2.0]	
RESPIRATORY SYSTEM						_
Lung	(10)	(10)	(10)	(10)	(10)	
Alveolus, Infiltration Cellular, Histiocyte	1 [1.0]	(10)	()	1 [1.0]	()	
Nose	(10)	(10)	(10)	(10)	(10)	
Trachea	(10)	(10)	(10)	(10)	(10)	
	(10)	(10)	,	(.0)	(10)	
SPECIAL SENSES SYSTEM						
Eye	(10)	(10)	(10)	(10)	(10)	
a. Number of onimals examined microscopies				` '	,	

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 07/25/2018 AVERAGE SEVERITY GRADES[b]

Perfluorooctanoic Acid CAS Number: 335-67-1

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

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0/0 ppm	0/300 ppm	150/300 ppm	0/1000 ppm	300/1000 ppm
Harderian Gland	(10)	(10)	(10)	(10)	(10)
RINARY SYSTEM					
Kidney	(10)	(10)	(10)	(10)	(10)
Accumulation, Hyaline Droplet			1 [1.0]		
Mineral	1 [1.0]				
Nephropathy, Chronic Progressive	5 [1.0]	7 [1.0]	5 [1.0]	6 [1.0]	4 [1.0]
Papilla, Urothelium, Hyperplasia				4 [1.3]	4 [1.0]
Pelvis, Inflammation, Chronic				1 [2.0]	1 [2.0]
Renal Tubule, Mineral	2 [1.0]	1 [1.0]	2 [1.0]	7 [1.0]	5 [1.2]
Urinary Bladder	(10)	(10)	(10)	(10)	(10)
Inflammation					1 [2.0]

*** END OF REPORT ***

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)