

Experiment Number: 20617 - 01

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
AVERAGE SEVERITY GRADES[b]**

Date Report Requested: 02/06/2018

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

PFOS_Final 1

NTP Study Number: C20617
Lock Date: 04/25/2016
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.2.3_002
PWG Approval Date: NONE

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	0mg/kg/d M	.312mg/kg/d M	.625mg/kg/d M	1.25mg/kg/d M	2.5mg/kg/d M	5mg/kg/d M
---------------------------------	------------	---------------	---------------	---------------	--------------	------------

Disposition Summary

Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Survivors						
Terminal Sacrifice	10	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10	10

ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(10)	(10)	(10)	(10)	(10)
Infiltration Cellular, Mixed Cell	1 [1.0]	4 [1.0]	1 [1.0]		3 [1.0]	
Inflammation, Granulomatous, Focal						1 [1.0]
Hepatocyte, Hypertrophy				3 [1.3]	8 [1.3]	10 [2.1]
Hepatocyte, Vacuolization Cytoplasmic					2 [1.0]	4 [1.0]
Pancreas	(10)	(10)	(10)	(10)	(10)	(10)
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(0)	(10)

CARDIOVASCULAR SYSTEM

Blood Vessel	(10)	(0)	(0)	(0)	(0)	(10)
Heart	(10)	(0)	(0)	(0)	(0)	(10)
Epicardium, Infiltration Cellular, Mononuclear Cell	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)

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	0mg/kg/d M	.312mg/kg/d M	.625mg/kg/d M	1.25mg/kg/d M	2.5mg/kg/d M	5mg/kg/d M
---------------------------------	------------	---------------	---------------	---------------	--------------	------------

ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(0)	(10)
Adrenal Medulla	(10)	(0)	(0)	(0)	(0)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(0)	(8)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(10)	(10)	(10)	(10)	(10)

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Epididymis	(10)	(0)	(0)	(0)	(0)	(10)
Preputial Gland	(10)	(0)	(0)	(0)	(0)	(10)
Prostate	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic	1 [1.0]					
Seminal Vesicle	(10)	(0)	(0)	(0)	(0)	(10)
Testes	(10)	(10)	(10)	(10)	(10)	(10)

HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(10)	(10)	(10)	(10)	(10)
Hypocellularity				5 [1.0]	4 [1.0]	8 [1.0]
Lymph Node, Mandibular	(8)	(0)	(0)	(0)	(0)	(9)
Lymph Node, Mesenteric	(9)	(0)	(0)	(0)	(0)	(10)
Spleen	(10)	(10)	(10)	(10)	(10)	(10)
Extramedullary Hematopoiesis, Decreased	1 [1.0]	1 [1.0]	2 [1.0]	7 [1.0]	8 [1.0]	10 [1.0]
Thymus	(9)	(0)	(0)	(0)	(0)	(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)

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	0mg/kg/d M	.312mg/kg/d M	.625mg/kg/d M	1.25mg/kg/d M	2.5mg/kg/d M	5mg/kg/d M
INTEGUMENTARY SYSTEM						
Mammary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Skin	(10)	(0)	(0)	(0)	(0)	(10)
MUSCULOSKELETAL SYSTEM						
Bone	(10)	(0)	(0)	(0)	(0)	(10)
NERVOUS SYSTEM						
Brain	(10)	(0)	(0)	(0)	(0)	(10)
RESPIRATORY SYSTEM						
Lung	(10)	(0)	(0)	(0)	(0)	(10)
Alveolus, Infiltration Cellular, Mixed Cell	1 [1.0]					1 [1.0]
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Respiratory Epithelium, Fibrosis, Focal					1 [2.0]	
Respiratory Epithelium, Hyperplasia	3 [1.0]		6 [1.8]	4 [1.5]		
Respiratory Epithelium, Inflammation, Granulomatous, Focal					1 [1.0]	
Respiratory Epithelium, Inflammation, Chronic Active	4 [1.0]		5 [2.0]	5 [1.0]		
Respiratory Epithelium, Ulcer					1 [1.0]	
Trachea	(10)	(0)	(0)	(0)	(0)	(10)
SPECIAL SENSES SYSTEM						
Eye	(10)	(0)	(0)	(0)	(0)	(10)
Harderian Gland	(10)	(0)	(0)	(0)	(0)	(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)

Experiment Number: 20617 - 01

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
AVERAGE SEVERITY GRADES[b]**

Date Report Requested: 02/06/2018

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	0mg/kg/d M	.312mg/kg/d M	.625mg/kg/d M	1.25mg/kg/d M	2.5mg/kg/d M	5mg/kg/d M
URINARY SYSTEM						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Nephropathy, Chronic Progressive	9 [1.0]	8 [1.0]	6 [1.0]	8 [1.0]	4 [1.0]	5 [1.0]
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

*** END OF MALE ***

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: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0mg/kg/d F	.312mg/kg/d F	.625mg/kg/d F	1.25mg/kg/d F	2.5mg/kg/d F	5mg/kg/d F
-----------------------------------	------------	---------------	---------------	---------------	--------------	------------

Disposition Summary

Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Natural Death						1
Survivors						
Terminal Sacrifice	10	10	10	10	10	9
Animals Examined Microscopically	10	10	10	10	10	10

ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(0)	(10)
Degeneration	1 [1.0]					
Inflammation, Chronic Active	1 [1.0]					
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(10)	(10)	(10)	(10)	(10)
Clear Cell Focus		1				
Congestion, Diffuse	1 [4.0]					
Infiltration Cellular, Mixed Cell		3 [1.0]	3 [1.0]	3 [1.0]	2 [1.0]	1 [1.0]
Hepatocyte, Cytoplasmic Alteration				3 [1.0]	5 [1.0]	10 [1.0]
Hepatocyte, Hypertrophy				2 [1.0]	3 [1.0]	10 [1.7]
Hepatocyte, Necrosis, Diffuse	1 [4.0]					
Pancreas	(10)	(10)	(10)	(10)	(10)	(10)
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Hyperkeratosis						1 [1.0]
Stomach, Glandular	(10)	(0)	(0)	(0)	(0)	(10)

CARDIOVASCULAR 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: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0mg/kg/d F	.312mg/kg/d F	.625mg/kg/d F	1.25mg/kg/d F	2.5mg/kg/d F	5mg/kg/d F
Blood Vessel	(10)	(0)	(0)	(0)	(0)	(10)
Heart	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Mixed Cell	1 [1.0]					

ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(0)	(10)
Adrenal Medulla	(10)	(0)	(0)	(0)	(0)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(0)	(5)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(10)	(10)	(10)	(10)	(10)

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Clitoral Gland	(10)	(0)	(0)	(0)	(0)	(10)
Ovary	(10)	(10)	(10)	(10)	(10)	(10)
Uterus	(10)	(0)	(0)	(0)	(0)	(10)
Bilateral, Dilatation	2 [2.0]					1 [1.0]

HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(10)	(10)	(10)	(10)	(10)
Hypocellularity		2 [1.0]	1 [1.0]	1 [1.0]	5 [1.0]	9 [1.8]
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(10)	(10)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(8)
Spleen	(10)	(10)	(10)	(10)	(10)	(10)
Extramedullary Hematopoiesis, Decreased	2 [1.0]	3 [1.0]	3 [1.0]	8 [1.0]	10 [1.0]	10 [1.0]
Thymus	(10)	(0)	(0)	(0)	(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)

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0mg/kg/d F	.312mg/kg/d F	.625mg/kg/d F	1.25mg/kg/d F	2.5mg/kg/d F	5mg/kg/d F
Atrophy						1 [3.0]
INTEGUMENTARY SYSTEM						
Mammary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Skin	(10)	(0)	(0)	(0)	(0)	(10)
MUSCULOSKELETAL SYSTEM						
Bone	(10)	(0)	(0)	(0)	(0)	(10)
NERVOUS SYSTEM						
Brain	(10)	(0)	(0)	(0)	(0)	(10)
RESPIRATORY SYSTEM						
Lung	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Granulomatous, Focal						1 [3.0]
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Respiratory Epithelium, Inflammation, Chronic Active					1 [1.0]	
Trachea	(10)	(0)	(0)	(0)	(0)	(10)
SPECIAL SENSES SYSTEM						
Eye	(10)	(0)	(0)	(0)	(0)	(10)
Harderian Gland	(10)	(0)	(0)	(0)	(0)	(10)
URINARY SYSTEM						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Nephropathy, Chronic Progressive	2 [1.0]	1 [1.0]	2 [1.0]	3 [1.0]	1 [1.0]	2 [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)

Experiment Number: 20617 - 01

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
AVERAGE SEVERITY GRADES[b]**

Date Report Requested: 02/06/2018

Test Type: 28-DAY

Perfluorooctane Sulfonate

Time Report Requested: 12:39:02

Route: GAVAGE

CAS Number: 1763-23-1

First Dose M/F: 01/24/12 / 01/25/12

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	0mg/kg/d F	.312mg/kg/d F	.625mg/kg/d F	1.25mg/kg/d F	2.5mg/kg/d F	5mg/kg/d F
Renal Tubule, Mineral		1 [1.0]	1 [1.0]	1 [1.0]		1 [1.0]
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

*** 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)