

**Experiment Number:** 07040 - 01  
**Test Type:** 28-DAY  
**Route:** GAVAGE  
**Species/Strain:** RATS/HSD

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
Perfluorobutane sulfonate (PFBS)  
**CAS Number:** 375-73-5

**Date Report Requested:** 02/06/2018  
**Time Report Requested:** 12:38:00  
**First Dose M/F:** 01/19/12 / 01/20/12  
**Lab:** BAT

PFBS\_Final 1

**NTP Study Number:** C07040  
**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

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First Dose M/F: 01/19/12 / 01/20/12

Lab: BAT

Harlan Sprague Dawley RATS MALE

0mg/kg/d M

62.6mg/kg/d M

125mg/kg/d M

250mg/kg/d M

500mg/kg/d M

1000mg/kg/d M

## Disposition Summary

	0mg/kg/d M	62.6mg/kg/d M	125mg/kg/d M	250mg/kg/d M	500mg/kg/d M	1000mg/kg/d M
Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Dosing Accident						1
Natural Death						9
Survivors						
Terminal Sacrifice	10	10	10	10	10	
Animals Examined Microscopically	10	10	10	10	10	10

## ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(10)	(10)
Hemorrhage						1 (10%)
Inflammation, Chronic					1 (10%)	1 (10%)
Perforation						1 (10%)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(10)	(10)
Infiltration Cellular	1 (10%)					
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(10)	(10)
Liver	(10)	(10)	(10)	(10)	(10)	(10)
Hemorrhage						1 (10%)
Hepatodiaphragmatic Nodule		1 (10%)				1 (10%)
Infiltration Cellular, Mixed Cell	2 (20%)	1 (10%)	2 (20%)	3 (30%)	1 (10%)	
Necrosis						1 (10%)
Hepatocyte, Cytoplasmic Alteration			1 (10%)		10 (100%)	9 (90%)
Hepatocyte, Hypertrophy			9 (90%)	10 (100%)	10 (100%)	9 (90%)
Pancreas	(10)	(10)	(10)	(10)	(10)	(10)
Salivary Glands	(10)	(0)	(0)	(0)	(10)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(10)	(10)	(10)
Inflammation, Acute						1 (10%)
Epithelium, Hyperplasia					1 (10%)	6 (60%)
Stomach, Glandular	(10)	(0)	(0)	(0)	(10)	(10)

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

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Harlan Sprague Dawley RATS MALE	0mg/kg/d M	62.6mg/kg/d M	125mg/kg/d M	250mg/kg/d M	500mg/kg/d M	1000mg/kg/d M
<b>CARDIOVASCULAR SYSTEM</b>						
Blood Vessel	(10)	(0)	(0)	(0)	(10)	(10)
Heart	(10)	(0)	(0)	(0)	(10)	(10)
Cardiomyopathy	1 (10%)				1 (10%)	
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(10)	(0)	(0)	(1)	(10)	(10)
Adrenal Medulla	(10)	(0)	(0)	(1)	(10)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(10)	(10)
Parathyroid Gland	(7)	(0)	(0)	(0)	(10)	(6)
Pituitary Gland	(10)	(0)	(0)	(0)	(10)	(10)
Thyroid Gland	(10)	(10)	(10)	(10)	(10)	(10)
<b>GENERAL BODY SYSTEM</b>						
None						
<b>GENITAL SYSTEM</b>						
Epididymis	(10)	(0)	(0)	(0)	(10)	(10)
Duct, Exfoliated Germ Cell						2 (20%)
Preputial Gland	(10)	(0)	(0)	(0)	(10)	(10)
Prostate	(10)	(0)	(0)	(0)	(10)	(10)
Seminal Vesicle	(10)	(0)	(0)	(0)	(10)	(10)
Testes	(10)	(10)	(10)	(10)	(10)	(10)
Germinal Epithelium, Degeneration						1 (10%)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(10)	(10)	(10)	(10)	(10)

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

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Lab: BAT

Harlan Sprague Dawley RATS MALE	0mg/kg/d M	62.6mg/kg/d M	125mg/kg/d M	250mg/kg/d M	500mg/kg/d M	1000mg/kg/d M
Hypocellularity						10 (100%)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(10)	(10)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(10)	(10)
Spleen	(10)	(10)	(10)	(10)	(10)	(10)
Thymus	(10)	(10)	(10)	(10)	(10)	(10)
Atrophy						5 (50%)
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(10)	(0)	(0)	(0)	(10)	(10)
Skin	(10)	(0)	(0)	(0)	(10)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(10)	(0)	(0)	(0)	(10)	(10)
<b>NERVOUS SYSTEM</b>						
Brain	(10)	(0)	(0)	(0)	(10)	(10)
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(0)	(10)	(10)
Erythrophagocytosis	1 (10%)				1 (10%)	
Fibrosis						1 (10%)
Hemorrhage						2 (20%)
Infiltration Cellular, Histiocyte					1 (10%)	
Infiltration Cellular, Mononuclear Cell	1 (10%)				1 (10%)	
Inflammation, Chronic Active	1 (10%)					1 (10%)
Alveolar Epithelium, Hyperplasia					1 (10%)	1 (10%)
Perivascular, Inflammation, Acute						1 (10%)
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Olfactory Epithelium, Degeneration			3 (30%)	7 (70%)	9 (90%)	9 (90%)

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

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Lab: BAT

Harlan Sprague Dawley RATS MALE	0mg/kg/d M	62.6mg/kg/d M	125mg/kg/d M	250mg/kg/d M	500mg/kg/d M	1000mg/kg/d M
Olfactory Epithelium, Hyperplasia			2 (20%)	5 (50%)	9 (90%)	5 (50%)
Olfactory Epithelium, Inflammation, Suppurative				2 (20%)	2 (20%)	9 (90%)
Olfactory Epithelium, Necrosis						7 (70%)
Trachea	(10)	(0)	(0)	(0)	(10)	(10)
<b>SPECIAL SENSES SYSTEM</b>						
Eye	(10)	(0)	(0)	(0)	(10)	(10)
Harderian Gland	(10)	(0)	(0)	(0)	(10)	(10)
Infiltration Cellular, Mononuclear Cell	1 (10%)					
<b>URINARY SYSTEM</b>						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Nephropathy, Chronic Progressive	6 (60%)	4 (40%)	2 (20%)	6 (60%)	3 (30%)	3 (30%)
Papilla, Necrosis						1 (10%)
Urinary Bladder	(10)	(0)	(0)	(0)	(10)	(10)

\*\*\* END OF MALE \*\*\*

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Harlan Sprague Dawley RATS FEMALE	0mg/kg/d F	62.6mg/kg/d F	125mg/kg/d F	250mg/kg/d F	500mg/kg/d F	1000mg/kg/d F
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**Disposition Summary**

<b>Animals Initially In Study</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>
<b>Early Deaths</b>						
<b>Natural Death</b>				<b>1</b>	<b>1</b>	<b>8</b>
<b>Survivors</b>						
<b>Terminal Sacrifice</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>9</b>	<b>9</b>	<b>2</b>
<b>Animals Examined Microscopically</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

## ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(1)	(10)	(10)
Inflammation, Chronic					1 (10%)	3 (30%)
Intestine Large, Cecum	(10)	(0)	(0)	(1)	(10)	(9)
Intestine Large, Colon	(10)	(0)	(0)	(1)	(10)	(9)
Intestine Large, Rectum	(10)	(0)	(0)	(1)	(10)	(9)
Intestine Small, Duodenum	(10)	(0)	(0)	(1)	(10)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(1)	(10)	(9)
Intestine Small, Jejunum	(10)	(0)	(0)	(1)	(10)	(9)
Liver	(10)	(10)	(10)	(10)	(10)	(10)
Infiltration Cellular, Mixed Cell Necrosis	1 (10%)			1 (10%)		3 (30%)
Bile Duct, Cyst				1 (10%)		
Hepatocyte, Cytoplasmic Alteration					9 (90%)	10 (100%)
Hepatocyte, Hypertrophy					8 (80%)	10 (100%)
Pancreas	(10)	(10)	(10)	(10)	(10)	(10)
Salivary Glands	(10)	(0)	(0)	(1)	(10)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(10)	(10)	(10)
Ulcer					1 (10%)	
Stomach, Glandular	(10)	(0)	(0)	(1)	(10)	(10)

## CARDIOVASCULAR SYSTEM

Blood Vessel	(10)	(0)	(0)	(1)	(10)	(10)
Heart	(10)	(0)	(0)	(1)	(10)	(10)

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

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Harlan Sprague Dawley RATS FEMALE	0mg/kg/d F	62.6mg/kg/d F	125mg/kg/d F	250mg/kg/d F	500mg/kg/d F	1000mg/kg/d F
Cardiomyopathy						1 (10%)
Epicardium, Inflammation, Chronic Active						1 (10%)
Myocardium, Necrosis						1 (10%)
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(10)	(0)	(0)	(1)	(10)	(10)
Adrenal Medulla	(10)	(0)	(0)	(1)	(10)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(1)	(10)	(10)
Parathyroid Gland	(7)	(0)	(0)	(0)	(9)	(10)
Pituitary Gland	(10)	(0)	(0)	(1)	(10)	(10)
Thyroid Gland	(10)	(10)	(10)	(10)	(10)	(10)
<b>GENERAL BODY SYSTEM</b>						
None						
<b>GENITAL SYSTEM</b>						
Clitoral Gland	(10)	(0)	(0)	(1)	(10)	(9)
Ovary	(10)	(10)	(10)	(10)	(10)	(9)
Uterus	(10)	(0)	(1)	(1)	(10)	(9)
Bilateral, Dilation			1 (100%)			
Vagina	(10)	(0)	(0)	(1)	(10)	(9)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(10)	(10)	(10)	(10)	(10)
Hypocellularity						9 (90%)
Lymph Node, Mandibular	(10)	(0)	(0)	(1)	(10)	(10)
Necrosis, Lymphoid						1 (10%)
Lymph Node, Mesenteric	(10)	(0)	(0)	(1)	(10)	(9)
Spleen	(10)	(10)	(10)	(10)	(10)	(10)

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Harlan Sprague Dawley RATS FEMALE	0mg/kg/d F	62.6mg/kg/d F	125mg/kg/d F	250mg/kg/d F	500mg/kg/d F	1000mg/kg/d F
Thymus	(10)	(10)	(10)	(10)	(10)	(10)
Atrophy						5 (50%)
Necrosis, Lymphoid						1 (10%)
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(10)	(0)	(0)	(1)	(10)	(10)
Skin	(10)	(0)	(0)	(1)	(10)	(10)
Hemorrhage				1 (100%)		
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(10)	(0)	(0)	(1)	(10)	(10)
<b>NERVOUS SYSTEM</b>						
Brain	(10)	(0)	(0)	(1)	(10)	(10)
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(1)	(10)	(10)
Erythrophagocytosis					1 (10%)	1 (10%)
Fibrosis						1 (10%)
Inflammation, Chronic Active					2 (20%)	1 (10%)
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Olfactory Epithelium, Degeneration			4 (40%)	9 (90%)	9 (90%)	7 (70%)
Olfactory Epithelium, Hyperplasia				8 (80%)	9 (90%)	4 (40%)
Olfactory Epithelium, Inflammation, Suppurative			1 (10%)	1 (10%)	2 (20%)	8 (80%)
Olfactory Epithelium, Necrosis						6 (60%)
Trachea	(10)	(0)	(0)	(1)	(10)	(10)

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



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<hr/>						
SPECIAL SENSES SYSTEM						
Eye	(10)	(0)	(0)	(1)	(10)	(10)
Harderian Gland	(10)	(0)	(0)	(1)	(10)	(10)
<hr/>						
URINARY SYSTEM						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Nephropathy, Chronic Progressive		4 (40%)		3 (30%)	1 (10%)	3 (30%)
Papilla, Necrosis						4 (40%)
Urinary Bladder	(10)	(0)	(0)	(1)	(10)	(9)

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\*\*\* END OF REPORT \*\*\*

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