

**Experiment Number:** 07040 - 01

**Test Type:** 28-DAY

**Route:** GAVAGE

**Species/Strain:** RATS/HSD

**P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)**

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

Note: Animals arranged according to days on test.

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0mg/kg/d M	DAY ON TEST ANIMAL ID	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	2	2	2	2	2	2
9	9	9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1
5	5	5	5	5	5	5	5	5	5	5	6
1	2	3	4	5	6	7	8	9	0		
											* TOTALS

## ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

## CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	10
Heart	+	+	+	+	+	+	+	+	+	+	10

\* .. 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

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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	DAY ON TEST													
		0 0 2 9	0 0 2 9	0 0 2 9	0 0 2 9									
ANIMAL ID	0 0 1 5 1	0 0 1 5 2	0 0 1 5 3	0 0 1 5 4	0 0 1 5 5	0 0 1 5 6	0 0 1 5 7	0 0 1 5 8	0 0 1 5 9	0 0 1 6 0			* TOTALS	
	0 0 1 5 1	0 0 1 5 2	0 0 1 5 3	0 0 1 5 4	0 0 1 5 5	0 0 1 5 6	0 0 1 5 7	0 0 1 5 8	0 0 1 5 9	0 0 1 6 0				

### ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	+	M	M	+	+	+	+	+	+	+	+	7
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	10

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	+	+	10

### HEMATOPOIETIC SYSTEM

\* .. 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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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 0mg/kg/d M	DAY ON TEST 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
1	1	1	1	1	1	1	1	1	1	1	1
5	5	5	5	5	5	5	5	5	5	6	6
1	2	3	4	5	6	7	8	9	0		* TOTALS
Bone Marrow		+	+	+	+	+	+	+	+	+	10
Lymph Node, Mandibular		+	+	+	+	+	+	+	+	+	10
Lymph Node, Mesenteric		+	+	+	+	+	+	+	+	+	10
Spleen		+	+	+	+	+	+	+	+	+	10
Thymus		+	+	+	+	+	+	+	+	+	10
<b>INTEGUMENTARY SYSTEM</b>											
Mammary Gland		+	+	+	+	+	+	+	+	+	10
Skin		+	+	+	+	+	+	+	+	+	10
<b>MUSCULOSKELETAL SYSTEM</b>											
Bone		+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>											
Brain		+	+	+	+	+	+	+	+	+	10
<b>RESPIRATORY SYSTEM</b>											
Lung		+	+	+	+	+	+	+	+	+	10
Nose		+	+	+	+	+	+	+	+	+	10
Trachea		+	+	+	+	+	+	+	+	+	10

\* .. Total animals with tissue examined microscopically; Total animals with tumor

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HARLAN SPRAGUE DAWLEY RATS MALE 0mg/kg/d M	DAY ON TEST ANIMAL ID												
		0 0 2 9	0 0 2 9	0 0 2 9									
		0 0 1 5 1	0 0 1 5 2	0 0 1 5 3	0 0 1 5 4	0 0 1 5 5	0 0 1 5 6	0 0 1 5 7	0 0 1 5 8	0 0 1 5 9	0 0 1 6 0		

\* TOTALS

### SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	10

### URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	10
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	10

### SYSTEMIC LESIONS

Multiple Organ	+	+	+	+	+	+	+	+	+	+	+	+	10
----------------	---	---	---	---	---	---	---	---	---	---	---	---	----

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X .. Lesion present  
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**Date Report Requested:** 02/06/2018

**Test Type:** 28-DAY

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Time Report Requested: 12:38:00

## Route: GAVAGE

**CAS Number:** 375-73-5

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

**Species/Strain:** RATS/HSD

## Lab: BAT

DAY ON TEST											
HARLAN SPRAGUE DAWLEY RATS MALE 62.6mg/kg/d M											
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	2	2	2	2	2	2	2	2	2	2	2
	9	9	9	9	9	9	9	9	9	9	9
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
* TOTALS		0	1	1	1	1	1	1	1	1	1
		6	6	6	6	6	6	6	6	6	7
		1	2	3	4	5	6	7	8	9	0

# ALIMENTARY SYSTEM

## CARDIOVASCULAR SYSTEM

NONE

## **ENDOCRINE SYSTEM**

Thyroid Gland + + + + + + + + + + + 10

## GENERAL BODY SYSTEM

NONE

## GENITAL SYSTEM

Testes + + + + + + + + + + +

## **HEMATOPOIETIC SYSTEM**

## **INTEGUMENTARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically: Total animals with tumor

+ .. Tissue examined microscopically

X - Lesion present

| Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

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

Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE 62.6mg/kg/d M	ANIMAL ID	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
		2	2	2	2	2	2	2	2	2	2	2	2
		9	9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1	1	1
		6	6	6	6	6	6	6	6	6	6	6	7
		1	2	3	4	5	6	7	8	9	9	9	0

\* TOTALS

## MUSCULOSKELETAL SYSTEM

NONE

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

Nose

+ + + + + + + + + + +

10

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

Kidney

+ + + + + + + + + + +

10

## SYSTEMIC LESIONS

Multiple Organ

+ + + + + + + + + + +

10

\* .. 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

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Time Report Requested: 12:38:00  
First Dose M/F: 01/19/12 / 01/20/12  
Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>125mg/kg/d M | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|--------------------------|----------|---|---|---|---|---|---|---|---|---|
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 9        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 1        | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|  |                          | 7        | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
|  |                          | 1        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|  |                          | * TOTALS |   |   |   |   |   |   |   |   |   |

### ALIMENTARY SYSTEM

|          |   |   |   |   |   |   |   |   |   |   |    |
|----------|---|---|---|---|---|---|---|---|---|---|----|
| Liver    | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

|               |   |   |   |   |   |   |   |   |   |   |    |
|---------------|---|---|---|---|---|---|---|---|---|---|----|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 10 |
|---------------|---|---|---|---|---|---|---|---|---|---|----|

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

|        |   |   |   |   |   |   |   |   |   |   |    |
|--------|---|---|---|---|---|---|---|---|---|---|----|
| Testes | + | + | + | + | + | + | + | + | + | + | 10 |
|--------|---|---|---|---|---|---|---|---|---|---|----|

### HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |    |
|-------------|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen      | + | + | + | + | + | + | + | + | + | + | 10 |
| Thymus      | + | + | + | + | + | + | + | + | + | + | 10 |

### INTEGUMENTARY SYSTEM

NONE

\* .. 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

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Route: GAVAGE

Species/Strain: RATS/HSD

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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

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>125mg/kg/d M | ANIMAL ID | 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 |
|  |           | 2           | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |           | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |           | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |           | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |           | 1           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|  |           | 7           | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
|  |           | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 0 |

\* TOTALS

## MUSCULOSKELETAL SYSTEM

NONE

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

Nose

+ + + + + + + + + + +

10

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

Kidney

+ + + + + + + + + + +

10

## SYSTEMIC LESIONS

Multiple Organ

+ + + + + + + + + + +

10

\* .. Total animals with tissue examined microscopically; Total animals with tumor

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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**Date Report Requested:** 02/06/2018

**Test Type:** 28-DAY

## Perfluorobutane sulfonate (PFBS)

Time Report Requested: 12:38:00

## Route: GAVAGE

**CAS Number:** 375-73-5

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

**Species/Strain:** RATS/HSD

## Lab: BAT

# ALIMENTARY SYSTEM

## CARDIOVASCULAR SYSTEM

**NONE**

## **ENDOCRINE SYSTEM**

|                 |   |    |
|-----------------|---|----|
| Adrenal Cortex  | + | 1  |
| Adrenal Medulla | + | 1  |
| Thyroid Gland   | + | 10 |

## **GENERAL BODY SYSTEM**

NONE

## GENITAL SYSTEM

Testes + + + + + + + + + + 10

## 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

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Time Report Requested: 12:38:00  
First Dose M/F: 01/19/12 / 01/20/12  
Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>250mg/kg/d M | DAY ON TEST<br>ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0      |  |
|--|--------------------------|---|---|---|---|---|---|---|---|---|--------|--|
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0      |  |
|  |                          | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2      |  |
|  |                          | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9      |  |
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | *      |  |
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | TOTALS |  |
|  |                          | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |        |  |
|  |                          | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |        |  |
|  |                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |        |  |
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |        |  |
| Spleen   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Thymus   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| <b>INTEGUMENTARY SYSTEM</b>                        |                          |   |   |   |   |   |   |   |   |   |        |  |
| NONE   |                          |   |   |   |   |   |   |   |   |   |        |  |
| <b>MUSCULOSKELETAL SYSTEM</b>                      |                          |   |   |   |   |   |   |   |   |   |        |  |
| NONE   |                          |   |   |   |   |   |   |   |   |   |        |  |
| <b>NERVOUS SYSTEM</b>                              |                          |   |   |   |   |   |   |   |   |   |        |  |
| NONE   |                          |   |   |   |   |   |   |   |   |   |        |  |
| <b>RESPIRATORY SYSTEM</b>                          |                          |   |   |   |   |   |   |   |   |   |        |  |
| Nose   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| <b>SPECIAL SENSES SYSTEM</b>                       |                          |   |   |   |   |   |   |   |   |   |        |  |
| NONE   |                          |   |   |   |   |   |   |   |   |   |        |  |
| <b>URINARY SYSTEM</b>                              |                          |   |   |   |   |   |   |   |   |   |        |  |
| Kidney   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| <b>SYSTEMIC LESIONS</b>                            |                          |   |   |   |   |   |   |   |   |   |        |  |
| Multiple Organ                                     |                          |   |   |   |   |   |   |   |   |   | 10     |  |

\* .. Total animals with tissue examined microscopically; Total animals with tumor

+ .. Tissue examined microscopically

X .. Lesion present

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

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>500mg/kg/d M | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|--|--|
|  |                       | 0<br>0<br>2<br>9      |                       |  |  |  |  |
| ANIMAL ID  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  | 0<br>0<br>1<br>9<br>1 |  |  |  |  |
|  | 1<br>2                | 2<br>3                | 3<br>4                | 4<br>5                | 5<br>6                | 6<br>7                | 7<br>8                | 8<br>9                | 9<br>0                |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |
|  |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |

\* TOTALS

### ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum   | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum  | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver                     | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

### CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart        | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| DAY ON TEST                |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|----------------------------|--|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MALE                       |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 500mg/kg/d M               |  | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| ANIMAL ID                  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                            |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                            |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
|                            |  | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
|                            |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| * TOTALS                   |  |   |   |   |   |   |   |   |   |   |   |

### ENDOCRINE SYSTEM

|                    |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex     | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Adrenal Medulla    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland  | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Pituitary Gland    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland      | + | + | + | + | + | + | + | + | + | + | + | 10 |

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

|                 |   |   |   |   |   |   |   |   |   |   |   |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Epididymis      | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Prostate        | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Testes          | + | + | + | + | + | + | + | + | + | + | + | 10 |

### HEMATOPOIETIC 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: 07040 - 01  
Test Type: 28-DAY  
Route: GAVAGE  
Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>500mg/kg/d M | DAY ON TEST<br>ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0      |  |
|--|--------------------------|---|---|---|---|---|---|---|---|---|--------|--|
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0      |  |
|  |                          | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2      |  |
|  |                          | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9      |  |
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | *      |  |
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | TOTALS |  |
|  |                          | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |        |  |
|  |                          | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |        |  |
|  |                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |        |  |
|  |                          |   |   |   |   |   |   |   |   |   |        |  |
| Bone Marrow  |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Lymph Node, Mandibular                             |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Lymph Node, Mesenteric                             |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Spleen   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Thymus   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| <b>INTEGUMENTARY SYSTEM</b>                        |                          |   |   |   |   |   |   |   |   |   |        |  |
| Mammary Gland                                      |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Skin   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| <b>MUSCULOSKELETAL SYSTEM</b>                      |                          |   |   |   |   |   |   |   |   |   |        |  |
| Bone   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| <b>NERVOUS SYSTEM</b>                              |                          |   |   |   |   |   |   |   |   |   |        |  |
| Brain  |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| <b>RESPIRATORY SYSTEM</b>                          |                          |   |   |   |   |   |   |   |   |   |        |  |
| Lung   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Nose   |                          |   |   |   |   |   |   |   |   |   | 10     |  |
| Trachea  |                          |   |   |   |   |   |   |   |   |   | 10     |  |

\* .. 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: 07040 - 01  
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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

| DAY ON TEST                       |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |          |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|----------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b> |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |          |
| <b>MALE</b>                       |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |          |
| <b>500mg/kg/d M</b>               |  | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |          |
| ANIMAL ID                         |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS |
|                                   |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |          |
|                                   |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |          |
|                                   |  | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |          |
|                                   |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |          |

### SPECIAL SENSES SYSTEM

|                 |   |   |   |   |   |   |   |   |   |   |   |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Eye             | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | 10 |

### URINARY SYSTEM

|                 |   |   |   |   |   |   |   |   |   |   |   |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Kidney          | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | 10 |

### SYSTEMIC LESIONS

|                |   |   |   |   |   |   |   |   |   |   |   |    |
|----------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | 10 |
|----------------|---|---|---|---|---|---|---|---|---|---|---|----|

\* .. 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

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 Test Type: 28-DAY  
 Route: GAVAGE  
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 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

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | DAY ON TEST |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |
|---|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|
|   |             | 0<br>0<br>0<br>6 | 0<br>0<br>1<br>5 | 0<br>0<br>1<br>7 | 0<br>0<br>1<br>8 | 0<br>0<br>1<br>8 | 0<br>0<br>1<br>8 | 0<br>0<br>2<br>1 | 0<br>0<br>2<br>4 | 0<br>0<br>2<br>5 | 0<br>0<br>2<br>5 | 0<br>0<br>2<br>5 |  |
| ANIMAL ID   |             | 0<br>0<br>2<br>1 | 0<br>0<br>2<br>0 | 0<br>0<br>2<br>2 | 0<br>0<br>2<br>2 | 0<br>0<br>0<br>0 | 0<br>0<br>2<br>2 | 0<br>0<br>2<br>2 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 | 0<br>0<br>0<br>0 |  |
|   |             | 0<br>0<br>1<br>9 | 0<br>0<br>2<br>5 | 0<br>0<br>2<br>8 | 0<br>0<br>2<br>8 | 0<br>0<br>0<br>7 | 0<br>0<br>2<br>4 | 0<br>0<br>2<br>3 | 0<br>0<br>0<br>6 |                  |                  |                  |  |
|   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |
|   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |
|   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |

\* TOTALS

## ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum   | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum  | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver                     | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

## CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart        | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

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

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 CAS Number: 375-73-5

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 Time Report Requested: 12:38:00  
 First Dose M/F: 01/19/12 / 01/20/12  
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | DAY ON TEST | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|-------------|----------|---|---|---|---|---|---|---|---|---|
|   |             | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | ANIMAL ID   | 0        | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
|   |             | 6        | 5 | 7 | 8 | 8 | 8 | 1 | 4 | 5 | 5 |
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | ANIMAL ID   | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |             | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | ANIMAL ID   | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|   |             | 1        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | ANIMAL ID   | 0        | 1 | 9 | 2 | 5 | 8 | 7 | 4 | 3 | 6 |
|   |             | * TOTALS |   |   |   |   |   |   |   |   |   |

### ENDOCRINE SYSTEM

|                    |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex     | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Adrenal Medulla    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland  | M | + | + | + | + | + | + | M | M | M | + | 6  |
| Pituitary Gland    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland      | + | + | + | + | + | + | + | + | + | + | + | 10 |

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

|                 |   |   |   |   |   |   |   |   |   |   |   |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Epididymis      | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Prostate        | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Testes          | + | + | + | + | + | + | + | + | + | + | + | 10 |

### HEMATOPOIETIC SYSTEM

\* .. 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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 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | DAY ON TEST<br>ANIMAL ID |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | * TOTALS |
|---|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|
|   |                          | 0<br>0<br>0<br>1<br>6 | 0<br>0<br>0<br>1<br>5 | 0<br>0<br>0<br>1<br>7 | 0<br>0<br>0<br>1<br>8 | 0<br>0<br>0<br>1<br>8 | 0<br>0<br>0<br>1<br>8 | 0<br>0<br>0<br>1<br>1 | 0<br>0<br>0<br>2<br>1 | 0<br>0<br>0<br>2<br>4 | 0<br>0<br>0<br>2<br>5 | 0<br>0<br>0<br>2<br>5 | 0<br>0<br>0<br>2<br>5 |          |
| Bone Marrow   |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| Lymph Node, Mandibular                              |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| Lymph Node, Mesenteric                              |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| Spleen  |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| Thymus  |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| <b>INTEGUMENTARY SYSTEM</b>                         |                          |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |          |
| Mammary Gland                                       |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| Skin  |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| <b>MUSCULOSKELETAL SYSTEM</b>                       |                          |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |          |
| Bone  |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| <b>NERVOUS SYSTEM</b>                               |                          |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |          |
| Brain   |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| <b>RESPIRATORY SYSTEM</b>                           |                          |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |          |
| Lung  |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| Nose  |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |
| Trachea   |                          | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | +                     | 10       |

\* .. Total animals with tissue examined microscopically; Total animals with tumor

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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Route: GAVAGE  
Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1000mg/kg/d M | DAY ON TEST |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|---|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|   |             | 0<br>0<br>0<br>1<br>6 | 0<br>0<br>0<br>1<br>5 | 0<br>0<br>0<br>1<br>7 | 0<br>0<br>0<br>1<br>8 | 0<br>0<br>0<br>1<br>8 | 0<br>0<br>0<br>1<br>8 | 0<br>0<br>0<br>2<br>1 | 0<br>0<br>0<br>2<br>4 | 0<br>0<br>0<br>2<br>5 | 0<br>0<br>0<br>2<br>5 | 0<br>0<br>0<br>2<br>5 | 0<br>0<br>0<br>2<br>5 |
| ANIMAL ID   |             |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|   | 0           | 0<br>0<br>0<br>2<br>1 | 0<br>0<br>0<br>2<br>9 | 0<br>0<br>0<br>2<br>2 | 0<br>0<br>0<br>5      | 0<br>0<br>0<br>2      | 0<br>0<br>0<br>8      | 0<br>0<br>0<br>7      | 0<br>0<br>0<br>4      | 0<br>0<br>0<br>3      | 0<br>0<br>0<br>6      |                       |                       |
|   | 0           | 0<br>0<br>0<br>2<br>1 | 0<br>0<br>0<br>2<br>9 | 0<br>0<br>0<br>2<br>2 | 0<br>0<br>0<br>5      | 0<br>0<br>0<br>2      | 0<br>0<br>0<br>8      | 0<br>0<br>0<br>7      | 0<br>0<br>0<br>4      | 0<br>0<br>0<br>3      | 0<br>0<br>0<br>6      |                       |                       |
|   | 0           | 0<br>0<br>0<br>2<br>1 | 0<br>0<br>0<br>2<br>9 | 0<br>0<br>0<br>2<br>2 | 0<br>0<br>0<br>5      | 0<br>0<br>0<br>2      | 0<br>0<br>0<br>8      | 0<br>0<br>0<br>7      | 0<br>0<br>0<br>4      | 0<br>0<br>0<br>3      | 0<br>0<br>0<br>6      |                       |                       |
|   | 0           | 0<br>0<br>0<br>2<br>1 | 0<br>0<br>0<br>2<br>9 | 0<br>0<br>0<br>2<br>2 | 0<br>0<br>0<br>5      | 0<br>0<br>0<br>2      | 0<br>0<br>0<br>8      | 0<br>0<br>0<br>7      | 0<br>0<br>0<br>4      | 0<br>0<br>0<br>3      | 0<br>0<br>0<br>6      |                       |                       |

\* TOTALS

### SPECIAL SENSES SYSTEM

|                 |   |   |   |   |   |   |   |   |   |   |   |   |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Eye             | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

### URINARY SYSTEM

|                 |   |   |   |   |   |   |   |   |   |   |   |   |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Kidney          | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

### SYSTEMIC LESIONS

|                |   |   |   |   |   |   |   |   |   |   |   |   |    |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|----|

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

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

**P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)**  
 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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>0mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|--------------------------|---|---|---|---|---|---|---|---|---|---|
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
|  |                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

### ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum   | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum  | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver                     | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + | + | 10 |

### CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart        | + | + | + | + | + | + | + | + | + | + | + | 10 |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>0mg/kg/d F | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  |                       | 0<br>0<br>2<br>9      |
| ANIMAL ID  | 0<br>0<br>2<br>1<br>1 |
|  | * TOTALS              |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |

### ENDOCRINE SYSTEM

|                    |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex     | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Adrenal Medulla    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland  | M | + | + | + | M | M | + | + | + | + | + | + | 7  |
| Pituitary Gland    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland      | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

|                |   |   |   |   |   |   |   |   |   |   |   |   |    |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Ovary          | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Uterus         | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Vagina         | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

### HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |   |   |    |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|----|

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>0mg/kg/d F | DAY ON TEST<br>ANIMAL ID |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|--|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|  |                          | 0<br>0<br>2<br>9 |          |
| Lymph Node, Mandibular                             |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Lymph Node, Mesenteric                             |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Spleen   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Thymus   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>INTEGUMENTARY SYSTEM</b>                        |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Mammary Gland                                      |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Skin   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>MUSCULOSKELETAL SYSTEM</b>                      |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Bone   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>NERVOUS SYSTEM</b>                              |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Brain  |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>RESPIRATORY SYSTEM</b>                          |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Lung   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Nose   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Trachea  |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>SPECIAL SENSES SYSTEM</b>                       |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>0mg/kg/d F | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|------------------|------------------|
|  |                       | 0<br>0<br>2<br>9      | 0<br>0<br>2<br>9 | 0<br>0<br>2<br>9 | 0<br>0<br>2<br>9 |
| ANIMAL ID  | 0<br>0<br>2<br>1<br>1 | 0<br>0<br>2<br>1<br>2 | 0<br>0<br>2<br>1<br>3 | 0<br>0<br>2<br>1<br>4 | 0<br>0<br>2<br>1<br>5 | 0<br>0<br>2<br>1<br>6 | 0<br>0<br>2<br>1<br>7 | 0<br>0<br>2<br>1<br>8 | 0<br>0<br>2<br>1<br>9 | 0<br>0<br>2<br>1<br>0 |                  | * TOTALS         |                  |
|  | 1<br>2                | 2<br>3                | 3<br>4                | 4<br>5                | 5<br>6                | 6<br>7                | 7<br>8                | 8<br>9                | 9<br>0                | 0                     |                  | 10               |                  |
| Eye  | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |
| Harderian Gland                                    | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |
| <b>URINARY SYSTEM</b>                              |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |
| Kidney   | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |
| Urinary Bladder                                    | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |
| <b>SYSTEMIC LESIONS</b>                            |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |
| Multiple Organ                                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |                  |                  |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>62.6mg/kg/d F | DAY ON TEST | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|-------------|----------|---|---|---|---|---|---|---|---|---|
|   |             | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |             | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|   |             | 9        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|   |             | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   | ANIMAL ID   | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |             | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|   |             | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
|   |             | 1        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|   |             | * TOTALS |   |   |   |   |   |   |   |   |   |

#### ALIMENTARY SYSTEM

|          |   |   |   |   |   |   |   |   |   |   |    |
|----------|---|---|---|---|---|---|---|---|---|---|----|
| Liver    | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |

#### CARDIOVASCULAR SYSTEM

NONE

#### ENDOCRINE SYSTEM

|               |   |   |   |   |   |   |   |   |   |   |    |
|---------------|---|---|---|---|---|---|---|---|---|---|----|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 10 |
|---------------|---|---|---|---|---|---|---|---|---|---|----|

#### GENERAL BODY SYSTEM

NONE

#### GENITAL SYSTEM

|       |   |   |   |   |   |   |   |   |   |   |    |
|-------|---|---|---|---|---|---|---|---|---|---|----|
| Ovary | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|----|

#### HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |    |
|-------------|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen      | + | + | + | + | + | + | + | + | + | + | 10 |
| Thymus      | + | + | + | + | + | + | + | + | + | + | 10 |

#### INTEGUMENTARY SYSTEM

NONE

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| DAY ON TEST                       |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b> |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>FEMALE</b>                     |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| <b>62.6mg/kg/d F</b>              |  | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| ANIMAL ID                         |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                                   |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                                   |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|                                   |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
|                                   |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |

\* TOTALS

### MUSCULOSKELETAL SYSTEM

NONE

### NERVOUS SYSTEM

NONE

### RESPIRATORY SYSTEM

Nose

+ + + + + + + + + + + 10

### SPECIAL SENSES SYSTEM

NONE

### URINARY SYSTEM

Kidney

+ + + + + + + + + + + 10

### SYSTEMIC LESIONS

Multiple Organ

+ + + + + + + + + + + 10

\* .. 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: 07040 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

## P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>125mg/kg/d F | ANIMAL ID | 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 |
|  |           | 2           | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |           | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |           | 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           | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |           | 3           | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|  |           | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 0 |

\* TOTALS

## ALIMENTARY SYSTEM

|          |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Liver    | + | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

## CARDIOVASCULAR SYSTEM

NONE

## ENDOCRINE SYSTEM

|               |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|

## GENERAL BODY SYSTEM

NONE

## GENITAL SYSTEM

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Ovary  | + | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Uterus |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |

## HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen      | + | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Thymus      | + | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

## INTEGUMENTARY 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: 07040 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

## P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>125mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|--|--------------------------|----------|---|---|---|---|---|---|---|---|---|--|
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |  |
|  |                          | 9        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |  |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |  |
|  |                          | 3        | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |  |
|  |                          | 1        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |  |
|  |                          | * TOTALS |   |   |   |   |   |   |   |   |   |  |

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Nose

+ + + + + + + + + +

10

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

Kidney

+ + + + + + + + + +

10

**SYSTEMIC LESIONS**

Multiple Organ

+ + + + + + + + + +

10

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|--------------------------|----------|---|---|---|---|---|---|---|---|---|
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 5        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |   |
|  |                          | 4        | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |   |
|  |                          | 9        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0 |
|  |                          | * TOTALS |   |   |   |   |   |   |   |   |   |

## ALIMENTARY SYSTEM

|                           |                    |    |
|---------------------------|--------------------|----|
| Esophagus                 | +                  | 1  |
| Intestine Large, Cecum    | +                  | 1  |
| Intestine Large, Colon    | +                  | 1  |
| Intestine Large, Rectum   | +                  | 1  |
| Intestine Small, Duodenum | +                  | 1  |
| Intestine Small, Ileum    | +                  | 1  |
| Intestine Small, Jejunum  | +                  | 1  |
| Liver                     | ++ + + + + + + + + | 10 |
| Pancreas                  | ++ + + + + + + + + | 10 |
| Salivary Glands           | +                  | 1  |
| Stomach, Forestomach      | ++ + + + + + + + + | 10 |
| Stomach, Glandular        | +                  | 1  |

## CARDIOVASCULAR SYSTEM

|              |   |   |
|--------------|---|---|
| Blood Vessel | + | 1 |
| Heart        | + | 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: 07040 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

## P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|--------------------------|----------|---|---|---|---|---|---|---|---|---|
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 5        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 4        | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
|  |                          | 9        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0 |
|  |                          | * TOTALS |   |   |   |   |   |   |   |   |   |

## ENDOCRINE SYSTEM

|                    |                     |    |
|--------------------|---------------------|----|
| Adrenal Cortex     | +                   | 1  |
| Adrenal Medulla    | +                   | 1  |
| Islets, Pancreatic | +                   | 1  |
| Parathyroid Gland  | M                   | 0  |
| Pituitary Gland    | +                   | 1  |
| Thyroid Gland      | + + + + + + + + + + | 10 |

## GENERAL BODY SYSTEM

NONE

## GENITAL SYSTEM

|                |                     |    |
|----------------|---------------------|----|
| Clitoral Gland | +                   | 1  |
| Ovary          | + + + + + + + + + + | 10 |
| Uterus         | +                   | 1  |
| Vagina         | +                   | 1  |

## HEMATOPOIETIC SYSTEM

|             |                     |    |
|-------------|---------------------|----|
| Bone Marrow | + + + + + + + + + + | 10 |
|-------------|---------------------|----|

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |    |  |
|--|--------------------------|---------------------|---|---|---|---|---|---|---|---|---|----|--|
|  |                          | 0                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |    |  |
|  |                          | 2                   | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |    |  |
|  |                          | 5                   | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |    |  |
|  |                          | 0                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |    |  |
|  |                          | 0                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |    |  |
|  |                          | 2                   | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |   |    |  |
|  |                          | 4                   | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |   |    |  |
|  |                          | 9                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0 |    |  |
|  |                          | * TOTALS            |   |   |   |   |   |   |   |   |   |    |  |
| Lymph Node, Mandibular                               |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| Lymph Node, Mesenteric                               |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| Spleen   |                          | + + + + + + + + + + |   |   |   |   |   |   |   |   |   | 10 |  |
| Thymus   |                          | + + + + + + + + + + |   |   |   |   |   |   |   |   |   | 10 |  |
| <b>INTEGUMENTARY SYSTEM</b>                          |                          |                     |   |   |   |   |   |   |   |   |   |    |  |
| Mammary Gland  |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| Skin   |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| <b>MUSCULOSKELETAL SYSTEM</b>                        |                          |                     |   |   |   |   |   |   |   |   |   |    |  |
| Bone   |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| <b>NERVOUS SYSTEM</b>                                |                          |                     |   |   |   |   |   |   |   |   |   |    |  |
| Brain  |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| <b>RESPIRATORY SYSTEM</b>                            |                          |                     |   |   |   |   |   |   |   |   |   |    |  |
| Lung   |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| Nose   |                          | + + + + + + + + + + |   |   |   |   |   |   |   |   |   | 10 |  |
| Trachea  |                          | +                   |   |   |   |   |   |   |   |   |   | 1  |  |
| <b>SPECIAL SENSES SYSTEM</b>                         |                          |                     |   |   |   |   |   |   |   |   |   |    |  |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250mg/kg/d F | DAY ON TEST | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
|--|-------------|----------|---|---|---|---|---|---|---|---|----|
|  | ANIMAL ID   | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
|  | 2           | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2  |
|  | 5           | 9        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9  |
|  | 0           | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
|  | 0           | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
|  | 2           | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2  |
|  | 4           | 4        | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5  |
|  | 9           | 1        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0 |    |
|  |             | * TOTALS |   |   |   |   |   |   |   |   |    |
| Eye  |             | +        |   |   |   |   |   |   |   |   | 1  |
| Harderian Gland                                      |             | +        |   |   |   |   |   |   |   |   | 1  |
| <b>URINARY SYSTEM</b>                                |             |          |   |   |   |   |   |   |   |   |    |
| Kidney   |             | +        | + | + | + | + | + | + | + | + | 10 |
| Urinary Bladder                                      |             | +        |   |   |   |   |   |   |   |   | 1  |
| <b>SYSTEMIC LESIONS</b>                              |             |          |   |   |   |   |   |   |   |   |    |
| Multiple Organ                                       |             | +        | + | + | + | + | + | + | + | + | 10 |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
 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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|--------------------------|----------|---|---|---|---|---|---|---|---|---|
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 1        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |                          | 5        | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
|  |                          | 5        | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 0 |
|  |                          | * TOTALS |   |   |   |   |   |   |   |   |   |

### ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum    | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon    | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum   | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum    | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum  | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver                     | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + | 10 |

### CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |    |
|--------------|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart        | + | + | + | + | + | + | + | + | + | + | 10 |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
 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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500mg/kg/d F | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------|---|---|---|---|---|---|---|---|---|---|
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |             | 1 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
|  |             | 5 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

### ENDOCRINE SYSTEM

|                    |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex     | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Adrenal Medulla    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland  | + | + | + | + | + | M | + | + | + | + | + | 9  |
| Pituitary Gland    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland      | + | + | + | + | + | + | + | + | + | + | + | 10 |

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

|                |   |   |   |   |   |   |   |   |   |   |   |    |
|----------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Ovary          | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Uterus         | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Vagina         | + | + | + | + | + | + | + | + | + | + | + | 10 |

### HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |   |    |
|-------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | 10 |
|-------------|---|---|---|---|---|---|---|---|---|---|---|----|

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
 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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500mg/kg/d F | DAY ON TEST<br>ANIMAL ID |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|--|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|  |                          | 0<br>0<br>2<br>1 | 0<br>0<br>2<br>9 |          |
| Lymph Node, Mandibular                               |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Lymph Node, Mesenteric                               |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Spleen   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Thymus   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>INTEGUMENTARY SYSTEM</b>                          |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Mammary Gland  |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Skin   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>MUSCULOSKELETAL SYSTEM</b>                        |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Bone   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>NERVOUS SYSTEM</b>                                |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Brain  |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>RESPIRATORY SYSTEM</b>                            |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Lung   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Nose   |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Trachea  |                          | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>SPECIAL SENSES SYSTEM</b>                         |                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
 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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500mg/kg/d F | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------|---|---|---|---|---|---|---|---|---|---|
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |             | 1 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| * TOTALS   |             |   |   |   |   |   |   |   |   |   |   |
| Eye  |             | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland                                      |             | + | + | + | + | + | + | + | + | + | + |
| <b>URINARY SYSTEM</b>                                |             |   |   |   |   |   |   |   |   |   |   |
| Kidney   |             | + | + | + | + | + | + | + | + | + | + |
| Urinary Bladder                                      |             | + | + | + | + | + | + | + | + | + | + |
| <b>SYSTEMIC LESIONS</b>                              |             |   |   |   |   |   |   |   |   |   |   |
| Multiple Organ                                       |             | + | + | + | + | + | + | + | + | + | + |

\* .. 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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 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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>1000mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|--------------------------|----------|---|---|---|---|---|---|---|---|---|
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |                          | 1        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|   |                          | 6        | 0 | 1 | 2 | 2 | 3 | 7 | 7 | 9 | 9 |
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * |
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|   |                          | 6        | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 6 | 6 |
|   |                          | 7        | 3 | 9 | 2 | 6 | 8 | 1 | 0 | 4 | 5 |
|   |                          | * TOTALS |   |   |   |   |   |   |   |   |   |

### ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum    | M | + | + | + | + | + | + | + | + | + | 9  |
| Intestine Large, Colon    | M | + | + | + | + | + | + | + | + | + | 9  |
| Intestine Large, Rectum   | M | + | + | + | + | + | + | + | + | + | 9  |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum    | M | + | + | + | + | + | + | + | + | + | 9  |
| Intestine Small, Jejunum  | M | + | + | + | + | + | + | + | + | + | 9  |
| Liver                     | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + | 10 |

### CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |    |
|--------------|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 10 |
| Heart        | + | + | + | + | + | + | + | + | + | + | 10 |

\* .. Total animals with tissue examined microscopically; Total animals with tumor

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>1000mg/kg/d F | DAY ON TEST           |                       |                       |                       |                       |                       |                  |                  |                  |                  |                  |                  |                  |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|   |                       | 0<br>0<br>1<br>6      | 0<br>0<br>2<br>0      | 0<br>0<br>2<br>1      | 0<br>0<br>2<br>2      | 0<br>0<br>2<br>2      | 0<br>0<br>2<br>3 | 0<br>0<br>2<br>7 | 0<br>0<br>2<br>7 | 0<br>0<br>2<br>9 | 0<br>0<br>2<br>9 | 0<br>0<br>2<br>9 | 0<br>0<br>2<br>9 |
| ANIMAL ID   | 0<br>0<br>2<br>6<br>7 | 0<br>0<br>2<br>6<br>3 | 0<br>0<br>2<br>6<br>9 | 0<br>0<br>2<br>6<br>2 | 0<br>0<br>2<br>6<br>6 | 0<br>0<br>2<br>6<br>8 | 0<br>0<br>2<br>1 | 0<br>0<br>2<br>0 | 0<br>0<br>2<br>4 | 0<br>0<br>2<br>5 | 0<br>0<br>2<br>5 | 0<br>0<br>2<br>5 | 0<br>0<br>2<br>5 |

\* TOTALS

### ENDOCRINE SYSTEM

|                    |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex     | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Adrenal Medulla    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland  | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Pituitary Gland    | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland      | + | + | + | + | + | + | + | + | + | + | + | + | 10 |

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | M | + | + | + | + | + | + | + | + | + | + | + | 9 |
| Ovary          | M | + | + | + | + | + | + | + | + | + | + | + | 9 |
| Uterus         | M | + | + | + | + | + | + | + | + | + | + | + | 9 |
| Vagina         | M | + | + | + | + | + | + | + | + | + | + | + | 9 |

### HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |   |   |    |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | 10 |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|----|

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

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)  
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 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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>1000mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |  |
|---|--------------------------|----------|---|---|---|---|---|---|---|---|----|--|
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |  |
|   |                          | 1        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2  |  |
|   |                          | 6        | 0 | 1 | 2 | 2 | 3 | 7 | 7 | 9 | 9  |  |
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |  |
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |  |
|   |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2  |  |
|   |                          | 6        | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 6 | 6  |  |
|   |                          | 7        | 3 | 9 | 2 | 6 | 8 | 1 | 0 | 4 | 5  |  |
|   |                          | * TOTALS |   |   |   |   |   |   |   |   |    |  |
| Lymph Node, Mandibular                                |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| Lymph Node, Mesenteric                                |                          | M        | + | + | + | + | + | + | + | + | 9  |  |
| Spleen  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| Thymus  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| <b>INTEGUMENTARY SYSTEM</b>                           |                          |          |   |   |   |   |   |   |   |   |    |  |
| Mammary Gland   |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| Skin  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| <b>MUSCULOSKELETAL SYSTEM</b>                         |                          |          |   |   |   |   |   |   |   |   |    |  |
| Bone  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| <b>NERVOUS SYSTEM</b>                                 |                          |          |   |   |   |   |   |   |   |   |    |  |
| Brain   |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| <b>RESPIRATORY SYSTEM</b>                             |                          |          |   |   |   |   |   |   |   |   |    |  |
| Lung  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| Nose  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| Trachea   |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| <b>SPECIAL SENSES SYSTEM</b>                          |                          |          |   |   |   |   |   |   |   |   |    |  |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>1000mg/kg/d F | DAY ON TEST<br>ANIMAL ID | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |  |
|---|--------------------------|----------|---|---|---|---|---|---|---|---|----|--|
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |  |
|   |                          | 1        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2  |  |
|   |                          | 6        | 0 | 1 | 2 | 2 | 3 | 7 | 7 | 9 | 9  |  |
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |    |  |
|   |                          | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |    |  |
|   |                          | 2        | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |    |  |
|   |                          | 6        | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 6 |    |  |
|   |                          | 7        | 3 | 9 | 2 | 6 | 8 | 1 | 0 | 4 |    |  |
|   |                          | * TOTALS |   |   |   |   |   |   |   |   |    |  |
| Eye   |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| Harderian Gland                                       |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| <b>URINARY SYSTEM</b>                                 |                          |          |   |   |   |   |   |   |   |   |    |  |
| Kidney  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |
| Urinary Bladder                                       |                          | M        | + | + | + | + | + | + | + | + | 9  |  |
| <b>SYSTEMIC LESIONS</b>                               |                          |          |   |   |   |   |   |   |   |   |    |  |
| Multiple Organ  |                          | +        | + | + | + | + | + | + | + | + | 10 |  |

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

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