

**Experiment Number:** 20617 - 01

**Test Type:** 28-DAY

**Route:** GAVAGE

**Species/Strain:** RATS/HSD

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

Perfluorooctane Sulfonate

**CAS Number:** 1763-23-1

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

**Time Report Requested:** 12:39:01

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

**Lab:** BAT

PFOS\_Final 1

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

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

**ALIMENTARY SYSTEM**

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

**CARDIOVASCULAR SYSTEM**

|              |   |   |   |   |   |   |   |   |   |   |           |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | <b>10</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

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>0mg/kg/d M | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|  | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      |          |
| ANIMAL ID  | 0<br>3<br>0<br>1 | 0<br>3<br>0<br>2 | 0<br>3<br>0<br>3 | 0<br>3<br>0<br>4 | 0<br>3<br>0<br>5 | 0<br>3<br>0<br>6 | 0<br>3<br>0<br>7 | 0<br>3<br>0<br>8 | 0<br>3<br>0<br>9 | 0<br>3<br>0<br>0 |          |
| Heart  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>ENDOCRINE SYSTEM</b>                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Adrenal Cortex                                   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Adrenal Medulla                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Islets, Pancreatic                               | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Parathyroid Gland                                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Pituitary Gland                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Thyroid Gland                                    | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>GENERAL BODY SYSTEM</b>                       |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| NONE   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| <b>GENITAL SYSTEM</b>                            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Epididymis                                       | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Preputial Gland                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Prostate   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Seminal Vesicle                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
 + .. Tissue examined microscopically  
 X .. Lesion present  
 I .. Insufficient tissue

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

Lab: BAT

| DAY ON TEST                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID |   |   |          |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|---|---|----------|
|                                 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |           |   |   |          |
| HARLAN SPRAGUE DAWLEY RATS MALE | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 3         | 3 | 3 |          |
| 0mg/kg/d M                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1         | 2 | 3 | * TOTALS |
| Testes                          | + | + | + | + | + | + | + | + | + | + |           |   |   | 10       |
| <b>HEMATOPOIETIC SYSTEM</b>     |   |   |   |   |   |   |   |   |   |   |           |   |   |          |
| Bone Marrow                     | + | + | + | + | + | + | + | + | + | + |           |   |   | 10       |
| Lymph Node, Mandibular          | + | + | I | + | + | + | + | I | + | + |           |   |   | 8        |
| Lymph Node, Mesenteric          | + | + | + | + | + | + | + | + | M | + |           |   |   | 9        |
| Spleen                          | + | + | + | + | + | + | + | + | + | + |           |   |   | 10       |
| Thymus                          | + | + | + | + | + | M | + | + | + | + |           |   |   | 9        |
| <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>       |   |   |   |   |   |   |   |   |   |   |           |   |   |          |

\* .. 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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First Dose M/F: 01/24/12 / 01/25/12

Lab: BAT

| 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 |           |  |                 |
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |           |  |                 |
| <b>MALE</b>                       | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |           |  |                 |
| <b>0mg/kg/d M</b>                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |  |                 |
|                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |  |                 |
|                                   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |           |  |                 |
|                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |           |  |                 |
|                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |           |  | <b>* TOTALS</b> |
| Lung                              | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| Nose                              | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| Trachea                           | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| <b>SPECIAL SENSES SYSTEM</b>      |   |   |   |   |   |   |   |   |   |   |           |  |                 |
| Eye                               | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| Harderian Gland                   | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| <b>URINARY SYSTEM</b>             |   |   |   |   |   |   |   |   |   |   |           |  |                 |
| Kidney                            | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| Urinary Bladder                   | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| <b>SYSTEMIC LESIONS</b>           |   |   |   |   |   |   |   |   |   |   |           |  |                 |
| Multiple Organ                    | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |

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+ .. Tissue examined microscopically  
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|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>.312mg/kg/d M | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   | ANIMAL ID   | 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 |
|   |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|   |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |   |   |   |
| <b>* TOTALS</b>                                     |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

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 |

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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|  |             |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>.312mg/kg/d M</b> | DAY ON TEST | 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 |
|  |             | 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 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |             |   |   |   |   |   |   |   |   |   |

\* TOTALS

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

|      |   |   |   |   |   |   |   |   |   |   |           |
|------|---|---|---|---|---|---|---|---|---|---|-----------|
| Nose | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|------|---|---|---|---|---|---|---|---|---|---|-----------|

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Kidney | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

**SYSTEMIC LESIONS**

|                |   |   |   |   |   |   |   |   |   |   |           |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|

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|   |             |   |   |   |   |   |   |   |   |   |                 |
|---|-------------|---|---|---|---|---|---|---|---|---|-----------------|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>.625mg/kg/d M | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |
|   | ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |
|   |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |                 |
|   |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |                 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |                 |
|   |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |                 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                 |
|   |             |   |   |   |   |   |   |   |   |   | <b>* TOTALS</b> |

ALIMENTARY SYSTEM

|          |   |   |   |   |   |   |   |   |   |   |           |
|----------|---|---|---|---|---|---|---|---|---|---|-----------|
| Liver    | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Pancreas | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

|               |   |   |   |   |   |   |   |   |   |   |           |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Testes | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |           |
|-------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Spleen      | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

INTEGUMENTARY SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
+ .. Tissue examined microscopically  
X .. Lesion present  
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|  |             |   |   |   |   |   |   |   |   |   |                 |
|--|-------------|---|---|---|---|---|---|---|---|---|-----------------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>.625mg/kg/d M</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | <b>* TOTALS</b> |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |
|  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |                 |
|  |             | 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 |                 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |                 |
|  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |                 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                 |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

|      |   |   |   |   |   |   |   |   |   |   |           |
|------|---|---|---|---|---|---|---|---|---|---|-----------|
| Nose | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|------|---|---|---|---|---|---|---|---|---|---|-----------|

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Kidney | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

**SYSTEMIC LESIONS**

|                |   |   |   |   |   |   |   |   |   |   |           |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | <b>10</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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|   |             |   |   |   |   |   |   |   |   |   |  |
|---|-------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1.25mg/kg/d M | DAY ON TEST | 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 |  |
|   |             | 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 |   |  |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>                                     |             |   |   |   |   |   |   |   |   |   |  |

**ALIMENTARY SYSTEM**

|          |   |   |   |   |   |   |   |   |   |   |           |
|----------|---|---|---|---|---|---|---|---|---|---|-----------|
| Liver    | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Pancreas | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

|               |   |   |   |   |   |   |   |   |   |   |           |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Testes | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

**HEMATOPOIETIC SYSTEM**

|             |   |   |   |   |   |   |   |   |   |   |           |
|-------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|-------------|---|---|---|---|---|---|---|---|---|---|-----------|

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Spleen | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

**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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

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Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

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

Lab: BAT

|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>1.25mg/kg/d M | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   | ANIMAL ID   | 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 |
|   |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0 |
| <b>* TOTALS</b>                                     |             |   |   |   |   |   |   |   |   |   |   |   |   |   |

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

Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |   |  |
|--|-------------|---|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>2.5mg/kg/d M | 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 |  |
|  |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |  |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|  |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |  |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |  |
| <b>* TOTALS</b>                                    |             |   |   |   |   |   |   |   |   |   |   |  |

**ALIMENTARY SYSTEM**

|          |   |   |   |   |   |   |   |   |   |   |           |
|----------|---|---|---|---|---|---|---|---|---|---|-----------|
| Liver    | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Pancreas | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

|               |   |   |   |   |   |   |   |   |   |   |           |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Testes | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

**HEMATOPOIETIC SYSTEM**

|             |   |   |   |   |   |   |   |   |   |   |           |
|-------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|-------------|---|---|---|---|---|---|---|---|---|---|-----------|

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Spleen | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

**INTEGUMENTARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
+ .. Tissue examined microscopically  
X .. Lesion present  
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M .. Missing tissue  
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Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>2.5mg/kg/d M | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | ANIMAL ID   | 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 |
|  |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <b>* TOTALS</b>                                    |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**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  
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Experiment Number: 20617 - 01

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**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

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

**ALIMENTARY SYSTEM**

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

**CARDIOVASCULAR SYSTEM**

|              |   |   |   |   |   |   |   |   |   |   |           |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | <b>10</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: 20617 - 01

Test Type: 28-DAY

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**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>5mg/kg/d M | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|  | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      |          |
| ANIMAL ID  | 0<br>3<br>5<br>1 | 0<br>3<br>5<br>2 | 0<br>3<br>5<br>3 | 0<br>3<br>5<br>4 | 0<br>3<br>5<br>5 | 0<br>3<br>5<br>6 | 0<br>3<br>5<br>7 | 0<br>3<br>5<br>8 | 0<br>3<br>5<br>9 | 0<br>3<br>5<br>0 |          |
| Heart  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>ENDOCRINE SYSTEM</b>                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Adrenal Cortex                                   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Adrenal Medulla                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Islets, Pancreatic                               | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Parathyroid Gland                                | +                | M                | +                | +                | +                | +                | +                | +                | M                | +                | 8        |
| Pituitary Gland                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Thyroid Gland                                    | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>GENERAL BODY SYSTEM</b>                       |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| NONE   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| <b>GENITAL SYSTEM</b>                            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Epididymis                                       | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Preputial Gland                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Prostate   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Seminal Vesicle                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
 + .. Tissue examined microscopically  
 X .. Lesion present  
 I .. Insufficient tissue

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Experiment Number: 20617 - 01

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**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>5mg/kg/d M | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|  | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      | 0<br>2<br>9      |          |
| ANIMAL ID  | 0<br>3<br>5<br>1 | 0<br>3<br>5<br>2 | 0<br>3<br>5<br>3 | 0<br>3<br>5<br>4 | 0<br>3<br>5<br>5 | 0<br>3<br>5<br>6 | 0<br>3<br>5<br>7 | 0<br>3<br>5<br>8 | 0<br>3<br>5<br>9 | 0<br>3<br>6<br>0 |          |
| Testes   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>HEMATOPOIETIC SYSTEM</b>                      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Bone Marrow                                      | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Lymph Node, Mandibular                           | +                | +                | +                | I                | +                | +                | +                | +                | +                | +                | 9        |
| 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>                        |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |

\* .. 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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First Dose M/F: 01/24/12 / 01/25/12

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>5mg/kg/d M | DAY ON TEST |       |       |       |       |       |       |       |       |       | * TOTALS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|  | 0029        | 0029  | 0029  | 0029  | 0029  | 0029  | 0029  | 0029  | 0029  | 0029  |          |
| ANIMAL ID  | 00351       | 00352 | 00353 | 00354 | 00355 | 00356 | 00357 | 00358 | 00359 | 00360 |          |
| Lung   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | 10       |
| Nose   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | 10       |
| Trachea  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | 10       |
| <b>SPECIAL SENSES SYSTEM</b>                     |             |       |       |       |       |       |       |       |       |       |          |
| Eye  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | 10       |
| Harderian Gland                                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | 10       |
| <b>URINARY SYSTEM</b>                            |             |       |       |       |       |       |       |       |       |       |          |
| Kidney   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | 10       |
| Urinary Bladder                                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | 10       |
| <b>SYSTEMIC LESIONS</b>                          |             |       |       |       |       |       |       |       |       |       |          |
| 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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

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

**ALIMENTARY SYSTEM**

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

**CARDIOVASCULAR SYSTEM**

|              |   |   |   |   |   |   |   |   |   |   |           |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | <b>10</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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

| 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 |           |                 |           |
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |           |                 |           |
| <b>FEMALE</b>                     | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |           |                 |           |
| <b>0mg/kg/d F</b>                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |                 |           |
|                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |                 |           |
|                                   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |           |                 |           |
|                                   | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |           |                 |           |
|                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |           |                 |           |
|                                   |   |   |   |   |   |   |   |   |   |   |           | <b>* TOTALS</b> |           |
| Heart                             | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| <b>ENDOCRINE SYSTEM</b>           |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| Adrenal Cortex                    | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Adrenal Medulla                   | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Islets, Pancreatic                | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Parathyroid Gland                 | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Pituitary Gland                   | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Thyroid Gland                     | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| <b>GENERAL BODY SYSTEM</b>        |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| NONE                              |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| <b>GENITAL SYSTEM</b>             |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| Clitoral Gland                    | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Ovary                             | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Uterus                            | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| <b>HEMATOPOIETIC 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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

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

\* .. 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: 20617 - 01

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Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

| 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 |           |  |                 |
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |           |  |                 |
| <b>FEMALE</b>                     | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |           |  |                 |
| <b>0mg/kg/d F</b>                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |  |                 |
|                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |  |                 |
|                                   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |           |  |                 |
|                                   | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |           |  |                 |
|                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |           |  | <b>* TOTALS</b> |
| Trachea                           | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| <b>SPECIAL SENSES SYSTEM</b>      |   |   |   |   |   |   |   |   |   |   |           |  |                 |
| Eye                               | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| Harderian Gland                   | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| <b>URINARY SYSTEM</b>             |   |   |   |   |   |   |   |   |   |   |           |  |                 |
| Kidney                            | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| Urinary Bladder                   | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</b>       |
| <b>SYSTEMIC LESIONS</b>           |   |   |   |   |   |   |   |   |   |   |           |  |                 |
| Multiple Organ                    | + | + | + | + | + | + | + | + | + | + |           |  | <b>10</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: 20617 - 01

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P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>.312mg/kg/d F | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   | ANIMAL ID   | 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 |
|   |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |   |   |   |
| <b>* TOTALS</b>                                       |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

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 |

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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |                 |
|--|-------------|---|---|---|---|---|---|---|---|---|-----------------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>.312mg/kg/d F</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | <b>* TOTALS</b> |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |
|  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |                 |
|  |             | 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 |                 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |                 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |                 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                 |
|  |             |   |   |   |   |   |   |   |   | 0 |                 |

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

|      |   |   |   |   |   |   |   |   |   |   |           |
|------|---|---|---|---|---|---|---|---|---|---|-----------|
| Nose | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|------|---|---|---|---|---|---|---|---|---|---|-----------|

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

|        |   |   |   |   |   |   |   |   |   |   |           |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|
| Kidney | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------|---|---|---|---|---|---|---|---|---|---|-----------|

**SYSTEMIC LESIONS**

|                |   |   |   |   |   |   |   |   |   |   |           |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | <b>10</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: 20617 - 01

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CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|   |             |   |   |   |   |   |   |   |   |   |   |  |
|---|-------------|---|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>.625mg/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   | 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 |   |  |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
|   |             | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |   |  |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |  |
| <b>* TOTALS</b>                                       |             |   |   |   |   |   |   |   |   |   |   |  |

**ALIMENTARY SYSTEM**

|          |   |   |   |   |   |   |   |   |   |   |           |
|----------|---|---|---|---|---|---|---|---|---|---|-----------|
| Liver    | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Pancreas | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

|               |   |   |   |   |   |   |   |   |   |   |           |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|       |   |   |   |   |   |   |   |   |   |   |           |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|
| Ovary | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|

**HEMATOPOIETIC SYSTEM**

|             |   |   |   |   |   |   |   |   |   |   |           |
|-------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Spleen      | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

**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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>.625mg/kg/d F</b> | 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 | 0 | 0 |
|  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|  |             | 9 | 9 | 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 | 0 | 0 | 0 | 0 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 |
|  |             | 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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |  |
|--|-------------|---|---|---|---|---|---|---|---|---|--|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>1.25mg/kg/d F</b> | DAY ON TEST | 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 |  |
|  |             | 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 |  |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |  |
|  |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |  |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>  |             |   |   |   |   |   |   |   |   |   |  |

**ALIMENTARY SYSTEM**

|          |   |   |   |   |   |   |   |   |   |   |           |
|----------|---|---|---|---|---|---|---|---|---|---|-----------|
| Liver    | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Pancreas | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

|               |   |   |   |   |   |   |   |   |   |   |           |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|       |   |   |   |   |   |   |   |   |   |   |           |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|
| Ovary | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|

**HEMATOPOIETIC SYSTEM**

|             |   |   |   |   |   |   |   |   |   |   |           |
|-------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | <b>10</b> |
| Spleen      | + | + | + | + | + | + | + | + | + | + | <b>10</b> |

**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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>1.25mg/kg/d F</b> | 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 |
|  | 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 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
|  |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | 0 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |  |
|--|-------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>2.5mg/kg/d F | DAY ON TEST | 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 |  |
|  |             | 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 |  |
|  |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |  |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>                                      |             |   |   |   |   |   |   |   |   |   |  |

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 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 10 |
| Spleen                 | + | + | + | + | + | + | + | + | + | + | 10 |
| Thymus                 | + | + | + | + | + | + | + | + | + | + | 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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

|                                      |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|
| 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>FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|                                      | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 2.5mg/kg/d F                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID                            | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
|                                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>                      |   |   |   |   |   |   |   |   |   |   |

**INTEGUMENTARY SYSTEM**

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  
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Lab: BAT

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

**ALIMENTARY SYSTEM**

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

**CARDIOVASCULAR SYSTEM**

|              |   |   |   |   |   |   |   |   |   |           |
|--------------|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | <b>10</b> |
|--------------|---|---|---|---|---|---|---|---|---|-----------|

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
+ .. Tissue examined microscopically  
X .. Lesion present  
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Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

| 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 |           |                 |           |
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>FEMALE<br/>5mg/kg/d F</b> | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4         |                 |           |
|   | 9 | 9 | 9 | 9 | 5 | 9 | 9 | 9 | 9 | 9 | 1         |                 |           |
|   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1         |                 |           |
|   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1         |                 |           |
|   |   |   |   |   |   |   |   |   |   |   |           | <b>* TOTALS</b> |           |
| Heart   | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| <b>ENDOCRINE SYSTEM</b>                                     |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| Adrenal Cortex  | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Adrenal Medulla   | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Islets, Pancreatic  | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Parathyroid Gland   | + | M | M | M | + | M | M | + | + | + |           |                 | <b>5</b>  |
| Pituitary Gland   | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Thyroid Gland   | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| <b>GENERAL BODY SYSTEM</b>                                  |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| NONE  |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| <b>GENITAL SYSTEM</b>                                       |   |   |   |   |   |   |   |   |   |   |           |                 |           |
| Clitoral Gland  | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Ovary   | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| Uterus  | + | + | + | + | + | + | + | + | + | + |           |                 | <b>10</b> |
| <b>HEMATOPOIETIC 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

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Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>5mg/kg/d F | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS |
|--|-------------|---|---|---|---|---|---|---|---|---|---|----------|
|  | ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |          |
|  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |          |
|  |             | 9 | 9 | 9 | 9 | 5 | 9 | 9 | 9 | 9 | 9 |          |
|  |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |          |
|  |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |          |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |          |
| Bone Marrow  |             | + | + | + | + | + | + | + | + | + | + | 10       |
| Lymph Node, Mandibular                             |             | + | + | + | + | + | + | + | + | + | + | 10       |
| Lymph Node, Mesenteric                             |             | + | + | + |   |   | + | + | + | + | + | 8        |
| 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       |

\* .. 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: 20617 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Perfluorooctane Sulfonate

CAS Number: 1763-23-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:39:01

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

Lab: BAT

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

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

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