

**Experiment Number:** 20209 - 01

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

**Date Report Requested:** 07/23/2014

**Test Type:** 90-DAY

Pentabromodiphenyl oxide (technical) (DE 71)

**Time Report Requested:** 13:18:30

**Route:** GAVAGE

**CAS Number:** 32534-81-9

**First Dose M/F:** 07/20/04 / 07/19/04

**Species/Strain:** RATS/F 344/N

**Lab:** SRI

F1\_Rev.1\_R2

**NTP Study Number:** C20209  
**Lock Date:** 12/07/2005  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 3.0.2.0\_001  
**PWG Approval Date:** NONE

Test Type: 90-DAY

Pentabromodiphenyl oxide (technical) (DE 71)

Time Report Requested: 13:18:30

Route: GAVAGE

CAS Number: 32534-81-9

First Dose M/F: 07/20/04 / 07/19/04

Species/Strain: RATS/F 344/N

Lab: SRI

| FISCHER 344 RATS MALE | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|-----------------------|---------|------------|---------|----------|-----------|-----------|
|-----------------------|---------|------------|---------|----------|-----------|-----------|

**Disposition Summary**

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

## ALIMENTARY SYSTEM

|                                       |      |      |         |          |          |          |
|---------------------------------------|------|------|---------|----------|----------|----------|
| Esophagus                             | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Intestine Large, Cecum                | (10) | (0)  | (0)     | (0)      | (0)      | (9)      |
| Intestine Large, Colon                | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Intestine Large, Rectum               | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Intestine Small, Duodenum             | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Intestine Small, Ileum                | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Intestine Small, Jejunum              | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Liver                                 | (10) | (10) | (10)    | (10)     | (10)     | (10)     |
| Hepatodiaphragmatic Nodule            |      |      | 1       | 1        |          | 1        |
| Necrosis, Focal                       |      |      |         | 1 [1.0]  | 2 [1.0]  | 1 [1.0]  |
| Hepatocyte, Hypertrophy               |      |      | 9 [1.0] | 10 [2.7] | 10 [3.4] | 10 [3.7] |
| Hepatocyte, Vacuolization Cytoplasmic |      |      |         | 10 [1.2] | 10 [2.0] | 10 [1.7] |
| Pancreas                              | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Salivary Glands                       | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Necrosis                              |      |      |         |          |          | 1 [1.0]  |
| Stomach, Forestomach                  | (10) | (0)  | (0)     | (0)      | (0)      | (10)     |
| Stomach, Glandular                    | (10) | (10) | (10)    | (10)     | (10)     | (10)     |
| Erosion                               |      |      | 1 [1.0] | 2 [1.5]  | 3 [1.7]  | 4 [1.5]  |

## CARDIOVASCULAR SYSTEM

|                |         |     |     |     |     |      |
|----------------|---------|-----|-----|-----|-----|------|
| Blood Vessel   | (1)     | (0) | (0) | (0) | (0) | (1)  |
| Heart          | (10)    | (0) | (0) | (0) | (0) | (10) |
| Cardiomyopathy | 3 [1.0] |     |     |     |     |      |

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

b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

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Pentabromodiphenyl oxide (technical) (DE 71)

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Species/Strain: RATS/F 344/N

Lab: SRI

| FISCHER 344 RATS MALE   | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|-------------------------|---------|------------|---------|----------|-----------|-----------|
| <b>ENDOCRINE SYSTEM</b> |         |            |         |          |           |           |
| Adrenal Cortex          | (10)    | (0)        | (0)     | (0)      | (2)       | (10)      |
| Adrenal Medulla         | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Islets, Pancreatic      | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Parathyroid Gland       | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Pituitary Gland         | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Pars Distalis, Cyst     | 1       |            |         |          |           |           |
| Thyroid Gland           | (10)    | (9)        | (10)    | (10)     | (10)      | (10)      |
| Follicle, Hypertrophy   |         |            |         |          | 1 [1.0]   | 9 [1.0]   |

**GENERAL BODY SYSTEM**

None

**GENITAL SYSTEM**

|                 |      |      |      |      |      |         |
|-----------------|------|------|------|------|------|---------|
| Epididymis      | (10) | (10) | (10) | (10) | (10) | (10)    |
| Hypospermia     |      |      |      |      |      | 9 [1.9] |
| Preputial Gland | (10) | (0)  | (0)  | (0)  | (0)  | (10)    |
| Prostate        | (10) | (0)  | (0)  | (0)  | (0)  | (10)    |
| Seminal Vesicle | (10) | (0)  | (0)  | (0)  | (0)  | (10)    |
| Testes          | (10) | (10) | (10) | (10) | (10) | (10)    |

**HEMATOPOIETIC SYSTEM**

|                                    |      |         |     |         |         |         |
|------------------------------------|------|---------|-----|---------|---------|---------|
| Bone Marrow                        | (10) | (0)     | (0) | (0)     | (0)     | (10)    |
| Hyperplasia                        |      |         |     |         |         | 2 [1.5] |
| Lymph Node                         | (0)  | (1)     | (0) | (1)     | (1)     | (0)     |
| Mediastinal, Hemorrhage            |      |         |     | 1 [2.0] | 1 [2.0] |         |
| Mediastinal, Hyperplasia, Lymphoid |      |         |     | 1 [2.0] | 1 [4.0] |         |
| Pancreatic, Hemorrhage             |      | 1 [3.0] |     |         |         |         |
| Pancreatic, Hyperplasia, Lymphoid  |      | 1 [1.0] |     |         |         |         |
| Lymph Node, Mandibular             | (0)  | (0)     | (0) | (0)     | (0)     | (1)     |

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Pentabromodiphenyl oxide (technical) (DE 71)

Time Report Requested: 13:18:30

Route: GAVAGE

CAS Number: 32534-81-9

First Dose M/F: 07/20/04 / 07/19/04

Species/Strain: RATS/F 344/N

Lab: SRI

| FISCHER 344 RATS MALE             | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|-----------------------------------|---------|------------|---------|----------|-----------|-----------|
| Lymph Node, Mesenteric            | (10)    | (10)       | (10)    | (10)     | (10)      | (10)      |
| Spleen                            | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Thymus                            | (10)    | (10)       | (10)    | (10)     | (10)      | (9)       |
| Hemorrhage                        | 1 [1.0] |            |         |          | 1 [2.0]   |           |
| <b>INTEGUMENTARY SYSTEM</b>       |         |            |         |          |           |           |
| Mammary Gland                     | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Skin                              | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>MUSCULOSKELETAL SYSTEM</b>     |         |            |         |          |           |           |
| Bone                              | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>NERVOUS SYSTEM</b>             |         |            |         |          |           |           |
| Brain                             | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>RESPIRATORY SYSTEM</b>         |         |            |         |          |           |           |
| Lung                              | (10)    | (10)       | (10)    | (10)     | (10)      | (10)      |
| Hemorrhage                        |         |            |         |          | 1 [1.0]   |           |
| Infiltration Cellular, Histiocyte |         |            |         |          | 1 [1.0]   | 1 [1.0]   |
| Inflammation, Chronic             | 2 [1.0] |            |         |          |           |           |
| Alveolar Epithelium, Hyperplasia  |         |            |         |          |           | 1 [2.0]   |
| Nose                              | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Trachea                           | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>SPECIAL SENSES SYSTEM</b>      |         |            |         |          |           |           |
| Eye                               | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Harderian Gland                   | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Inflammation, Chronic             | 1 [2.0] |            |         |          |           |           |

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

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Species/Strain: RATS/F 344/N

Lab: SRI

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| FISCHER 344 RATS MALE | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|-----------------------|---------|------------|---------|----------|-----------|-----------|
| <hr/>                 |         |            |         |          |           |           |
| URINARY SYSTEM        |         |            |         |          |           |           |
| Kidney                | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Nephropathy           | 1 [1.0] |            |         |          |           | 2 [1.0]   |
| Urinary Bladder       | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |

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

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Species/Strain: RATS/F 344/N

Lab: SRI

| FISCHER 344 RATS FEMALE          | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|----------------------------------|---------|------------|---------|----------|-----------|-----------|
| <b>Disposition Summary</b>       |         |            |         |          |           |           |
| Animals Initially In Study       | 10      | 10         | 10      | 10       | 10        | 10        |
| Early Deaths                     |         |            |         |          |           |           |
| Survivors                        |         |            |         |          |           |           |
| Terminal Sacrifice               | 10      | 10         | 10      | 10       | 10        | 10        |
| Animals Examined Microscopically | 10      | 10         | 10      | 10       | 10        | 10        |

ALIMENTARY SYSTEM

|                                       |         |         |         |          |          |          |
|---------------------------------------|---------|---------|---------|----------|----------|----------|
| Esophagus                             | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Intestine Large, Cecum                | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Intestine Large, Colon                | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Intestine Large, Rectum               | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Intestine Small, Duodenum             | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Intestine Small, Ileum                | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Intestine Small, Jejunum              | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Liver                                 | (10)    | (10)    | (10)    | (10)     | (10)     | (10)     |
| Basophilic Focus                      |         |         |         |          |          | 1        |
| Hepatodiaphragmatic Nodule            |         |         |         |          | 1        |          |
| Necrosis, Focal                       | 1 [1.0] |         |         | 1 [1.0]  |          |          |
| Hepatocyte, Hypertrophy               |         | 2 [1.0] | 5 [1.4] | 10 [2.2] | 10 [3.1] | 10 [4.0] |
| Hepatocyte, Vacuolization Cytoplasmic |         |         |         | 3 [1.0]  | 10 [1.1] | 10 [1.0] |
| Mesentery                             | (0)     | (1)     | (0)     | (0)      | (0)      | (0)      |
| Fat, Necrosis                         |         | 1 [2.0] |         |          |          |          |
| Pancreas                              | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Salivary Glands                       | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Stomach, Forestomach                  | (10)    | (0)     | (0)     | (0)      | (0)      | (10)     |
| Stomach, Glandular                    | (10)    | (10)    | (10)    | (10)     | (10)     | (10)     |
| Erosion                               |         |         |         |          |          | 3 [1.0]  |
| Glands, Dilatation                    |         | 1 [1.0] |         |          | 1 [1.0]  |          |

CARDIOVASCULAR SYSTEM

|       |      |     |     |     |     |      |
|-------|------|-----|-----|-----|-----|------|
| Heart | (10) | (0) | (0) | (0) | (0) | (10) |
|-------|------|-----|-----|-----|-----|------|

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| FISCHER 344 RATS FEMALE            | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|------------------------------------|---------|------------|---------|----------|-----------|-----------|
| Cardiomyopathy                     | 1 [1.0] |            |         |          |           |           |
| <b>ENDOCRINE SYSTEM</b>            |         |            |         |          |           |           |
| Adrenal Cortex                     | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Accessory Adrenal Cortical Nodule  | 1 [1.0] |            |         |          |           |           |
| Adrenal Medulla                    | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Islets, Pancreatic                 | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Parathyroid Gland                  | (10)    | (0)        | (0)     | (0)      | (0)       | (9)       |
| Pituitary Gland                    | (9)     | (0)        | (0)     | (0)      | (0)       | (10)      |
| Pars Distalis, Cyst                |         |            |         |          |           | 1         |
| Thyroid Gland                      | (10)    | (0)        | (10)    | (10)     | (10)      | (10)      |
| Follicle, Hypertrophy              |         |            |         | 8 [1.0]  | 9 [1.4]   | 10 [2.9]  |
| <b>GENERAL BODY SYSTEM</b>         |         |            |         |          |           |           |
| None                               |         |            |         |          |           |           |
| <b>GENITAL SYSTEM</b>              |         |            |         |          |           |           |
| Clitoral Gland                     | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Inflammation, Chronic              |         |            |         |          |           | 2 [2.0]   |
| Ovary                              | (10)    | (10)       | (10)    | (10)     | (10)      | (10)      |
| Uterus                             | (10)    | (10)       | (10)    | (10)     | (10)      | (10)      |
| <b>HEMATOPOIETIC SYSTEM</b>        |         |            |         |          |           |           |
| Bone Marrow                        | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Lymph Node                         | (0)     | (0)        | (2)     | (1)      | (2)       | (0)       |
| Mediastinal, Hemorrhage            |         |            | 1 [3.0] | 1 [2.0]  | 2 [1.5]   |           |
| Mediastinal, Hyperplasia, Lymphoid |         |            | 1 [1.0] | 1 [3.0]  | 2 [3.0]   |           |
| Pancreatic, Hemorrhage             |         |            | 1 [3.0] |          | 1 [2.0]   |           |
| Pancreatic, Pigmentation           |         |            | 1 [2.0] |          | 1 [1.0]   |           |

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| FISCHER 344 RATS FEMALE           | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|-----------------------------------|---------|------------|---------|----------|-----------|-----------|
| Lymph Node, Mesenteric            | (10)    | (9)        | (10)    | (10)     | (10)      | (10)      |
| Spleen                            | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Thymus                            | (10)    | (10)       | (10)    | (10)     | (9)       | (10)      |
| Atrophy                           |         |            |         |          |           | 4 [1.3]   |
| Hemorrhage                        |         |            | 1 [2.0] |          |           |           |
| <b>INTEGUMENTARY SYSTEM</b>       |         |            |         |          |           |           |
| Mammary Gland                     | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Skin                              | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>MUSCULOSKELETAL SYSTEM</b>     |         |            |         |          |           |           |
| Bone                              | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>NERVOUS SYSTEM</b>             |         |            |         |          |           |           |
| Brain                             | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>RESPIRATORY SYSTEM</b>         |         |            |         |          |           |           |
| Lung                              | (10)    | (10)       | (10)    | (10)     | (10)      | (10)      |
| Hemorrhage                        |         | 2 [1.0]    |         |          | 1 [1.0]   |           |
| Infiltration Cellular, Histiocyte |         |            |         |          | 1 [1.0]   | 1 [1.0]   |
| Inflammation, Chronic             |         |            |         |          |           | 2 [1.0]   |
| Nose                              | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Trachea                           | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| <b>SPECIAL SENSES SYSTEM</b>      |         |            |         |          |           |           |
| Eye                               | (10)    | (0)        | (0)     | (0)      | (1)       | (10)      |
| Developmental Malformation        |         |            |         |          | 1         |           |
| Harderian Gland                   | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |

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| FISCHER 344 RATS FEMALE                 | 0 MG/KG | 0.01 MG/KG | 5 MG/KG | 50 MG/KG | 100 MG/KG | 500 MG/KG |
|---|---------|------------|---------|----------|-----------|-----------|
| <hr/>                                   |         |            |         |          |           |           |
| URINARY SYSTEM                          |         |            |         |          |           |           |
| Kidney                                  | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |
| Infiltration Cellular, Mononuclear Cell |         |            |         |          |           | 1 [1.0]   |
| Urinary Bladder                         | (10)    | (0)        | (0)     | (0)      | (0)       | (10)      |

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

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b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)