



Experiment Number: 20320 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
 Tetrabromobisphenol A  
 CAS Number: 79-94-7

Date Report Requested: 01/23/2013  
 Time Report Requested: 15:06:22  
 First Dose M/F: 07/25/07 / 07/26/07  
 Lab: BAT

| Wistar Han RATS MALE | 0 mg/kg | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|----------------------|---------|-----------|-----------|------------|
|----------------------|---------|-----------|-----------|------------|

**Disposition Summary**

|   |           |           |           |           |
|---|-----------|-----------|-----------|-----------|
| <b>Animals Initially In Study</b>       | <b>60</b> | <b>50</b> | <b>50</b> | <b>60</b> |
| <b>Early Deaths</b>                     |           |           |           |           |
| <b>Dosing Accident</b>                  | <b>1</b>  |           |           | <b>3</b>  |
| <b>Moribund Sacrifice</b>               | <b>14</b> | <b>18</b> | <b>8</b>  | <b>6</b>  |
| <b>Natural Death</b>                    | <b>2</b>  | <b>4</b>  | <b>4</b>  | <b>2</b>  |
| <b>Survivors</b>                        |           |           |           |           |
| <b>Moribund Sacrifice</b>               | <b>1</b>  |           |           |           |
| <b>Terminal Sacrifice</b>               | <b>32</b> | <b>28</b> | <b>38</b> | <b>39</b> |
| <b>Animals Examined Microscopically</b> | <b>50</b> | <b>50</b> | <b>50</b> | <b>50</b> |

**ALIMENTARY SYSTEM**

|                           |          |          |          |          |
|---------------------------|----------|----------|----------|----------|
| Esophagus                 | (50)     | (50)     | (50)     | (50)     |
| Inflammation              | 1 (2%)   |          |          |          |
| Intestine Large, Cecum    | (50)     | (50)     | (50)     | (50)     |
| Inflammation              |          |          |          | 1 (2%)   |
| Ulcer                     |          |          | 1 (2%)   |          |
| Intestine Large, Colon    | (50)     | (50)     | (50)     | (50)     |
| Inflammation              |          |          | 1 (2%)   |          |
| Ulcer                     | 2 (4%)   |          |          |          |
| Intestine Large, Rectum   | (50)     | (50)     | (50)     | (50)     |
| Inflammation              |          |          | 1 (2%)   |          |
| Parasite Metazoan         | 1 (2%)   | 1 (2%)   | 1 (2%)   |          |
| Ulcer                     | 1 (2%)   |          | 1 (2%)   |          |
| Intestine Small, Duodenum | (50)     | (50)     | (50)     | (50)     |
| Diverticulum              |          |          |          | 1 (2%)   |
| Metaplasia, Osseous       |          |          |          | 1 (2%)   |
| Intestine Small, Ileum    | (50)     | (50)     | (50)     | (50)     |
| Hyperplasia               |          |          |          | 1 (2%)   |
| Intestine Small, Jejunum  | (50)     | (50)     | (50)     | (50)     |
| Liver                     | (50)     | (50)     | (50)     | (50)     |
| Angiectasis               | 2 (4%)   | 2 (4%)   |          | 1 (2%)   |
| Basophilic Focus          | 19 (38%) | 26 (52%) | 24 (48%) | 13 (26%) |
| Clear Cell Focus          | 34 (68%) | 33 (66%) | 43 (86%) | 41 (82%) |

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

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| Wistar Han RATS MALE            | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|---------------------------------|----------|-----------|-----------|------------|
| Congestion                      |          |           | 1 (2%)    |            |
| Eosinophilic Focus              |          | 3 (6%)    |           | 3 (6%)     |
| Fatty Change                    | 28 (56%) | 35 (70%)  | 30 (60%)  | 27 (54%)   |
| Hepatodiaphragmatic Nodule      | 1 (2%)   |           | 2 (4%)    |            |
| Inflammation, Suppurative       |          |           | 1 (2%)    |            |
| Mixed Cell Focus                | 9 (18%)  | 10 (20%)  | 12 (24%)  | 16 (32%)   |
| Necrosis                        | 1 (2%)   |           |           |            |
| Thrombosis                      |          | 1 (2%)    |           |            |
| Artery, Vein, Necrosis          |          | 1 (2%)    |           |            |
| Bile Duct, Hyperplasia          | 3 (6%)   | 5 (10%)   | 7 (14%)   | 7 (14%)    |
| Oval Cell, Hyperplasia          |          | 1 (2%)    |           |            |
| Mesentery                       | (3)      | (3)       | (0)       | (2)        |
| Inflammation, Chronic           | 1 (33%)  |           |           |            |
| Fat, Necrosis                   | 2 (67%)  | 3 (100%)  |           | 2 (100%)   |
| Pancreas                        | (50)     | (50)      | (50)      | (50)       |
| Atrophy                         | 4 (8%)   | 1 (2%)    | 1 (2%)    | 2 (4%)     |
| Necrosis                        | 1 (2%)   |           |           |            |
| Acinus, Hyperplasia             | 1 (2%)   |           |           | 1 (2%)     |
| Salivary Glands                 | (50)     | (50)      | (50)      | (49)       |
| Stomach, Forestomach            | (50)     | (50)      | (50)      | (50)       |
| Cyst                            |          |           | 1 (2%)    |            |
| Inflammation, Chronic           | 6 (12%)  | 5 (10%)   |           | 1 (2%)     |
| Mineralization                  | 1 (2%)   |           |           |            |
| Necrosis                        | 1 (2%)   |           |           |            |
| Ulcer                           | 1 (2%)   | 1 (2%)    | 2 (4%)    |            |
| Epithelium, Hyperplasia         |          |           | 1 (2%)    |            |
| Stomach, Glandular              | (50)     | (50)      | (50)      | (50)       |
| Inflammation, Chronic           | 1 (2%)   | 2 (4%)    | 1 (2%)    | 1 (2%)     |
| Mineralization                  |          | 3 (6%)    | 4 (8%)    | 1 (2%)     |
| Necrosis                        | 1 (2%)   |           |           |            |
| Ulcer                           | 1 (2%)   |           | 1 (2%)    | 1 (2%)     |
| Epithelium, Glands, Hyperplasia |          | 1 (2%)    |           | 1 (2%)     |

CARDIOVASCULAR SYSTEM

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

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 Lab: BAT

| Wistar Han RATS MALE                      | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|---|----------|-----------|-----------|------------|
| Blood Vessel                              | (50)     | (50)      | (50)      | (50)       |
| Adventitia, Aorta, Hemorrhage             | 1 (2%)   |           |           |            |
| Aorta, Inflammation, Chronic              | 1 (2%)   |           |           |            |
| Aorta, Mineralization                     |          |           |           | 1 (2%)     |
| Heart                                     | (50)     | (50)      | (50)      | (50)       |
| Cardiomyopathy                            | 33 (66%) | 23 (46%)  | 23 (46%)  | 30 (60%)   |
| Mineralization                            |          |           |           | 1 (2%)     |
| Atrium, Epicardium, Inflammation, Chronic | 1 (2%)   |           |           |            |
| Endocardium, Hyperplasia                  | 1 (2%)   | 1 (2%)    | 1 (2%)    |            |
| Epicardium, Fibrosis                      | 1 (2%)   |           |           |            |
| <b>ENDOCRINE SYSTEM</b>                   |          |           |           |            |
| Adrenal Cortex                            | (50)     | (50)      | (49)      | (50)       |
| Cytoplasmic Alteration                    |          |           | 1 (2%)    |            |
| Degeneration, Cystic                      | 1 (2%)   |           |           |            |
| Hemorrhage                                |          | 1 (2%)    |           |            |
| Hyperplasia                               | 12 (24%) | 5 (10%)   | 6 (12%)   | 9 (18%)    |
| Metaplasia, Osseous                       |          |           | 1 (2%)    |            |
| Necrosis                                  |          | 2 (4%)    | 1 (2%)    |            |
| Vacuolization Cytoplasmic                 | 17 (34%) | 17 (34%)  | 15 (31%)  | 16 (32%)   |
| Adrenal Medulla                           | (49)     | (50)      | (49)      | (50)       |
| Hyperplasia                               | 3 (6%)   | 1 (2%)    | 3 (6%)    | 2 (4%)     |
| Necrosis                                  |          | 1 (2%)    | 1 (2%)    |            |
| Vacuolization Cytoplasmic                 |          |           |           | 1 (2%)     |
| Islets, Pancreatic                        | (50)     | (50)      | (50)      | (50)       |
| Hyperplasia                               | 1 (2%)   |           |           |            |
| Parathyroid Gland                         | (45)     | (48)      | (47)      | (49)       |
| Hyperplasia                               | 1 (2%)   | 1 (2%)    | 2 (4%)    | 1 (2%)     |
| Pituitary Gland                           | (50)     | (49)      | (50)      | (48)       |
| Cyst                                      | 1 (2%)   | 3 (6%)    |           | 3 (6%)     |
| Pars Distalis, Hyperplasia                | 8 (16%)  | 8 (16%)   | 9 (18%)   | 7 (15%)    |
| Pars Intermedia, Hyperplasia              | 2 (4%)   | 2 (4%)    | 2 (4%)    | 2 (4%)     |
| Thyroid Gland                             | (50)     | (50)      | (50)      | (50)       |
| Cyst                                      | 1 (2%)   |           |           |            |

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| Wistar Han RATS MALE  | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|-----------------------|----------|-----------|-----------|------------|
| C-cell, Hyperplasia   | 16 (32%) | 27 (54%)  | 26 (52%)  | 19 (38%)   |
| Follicle, Hyperplasia | 3 (6%)   |           | 2 (4%)    | 2 (4%)     |

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

|                                     |          |          |          |          |
|-------------------------------------|----------|----------|----------|----------|
| Epididymis                          | (50)     | (50)     | (50)     | (50)     |
| Atrophy                             | 1 (2%)   | 1 (2%)   |          |          |
| Granuloma Sperm                     |          | 1 (2%)   |          |          |
| Preputial Gland                     | (50)     | (50)     | (50)     | (50)     |
| Inflammation                        | 1 (2%)   | 6 (12%)  | 10 (20%) | 3 (6%)   |
| Prostate                            | (50)     | (50)     | (50)     | (50)     |
| Atrophy                             |          | 1 (2%)   |          |          |
| Fibrosis                            |          |          |          | 1 (2%)   |
| Hyperplasia                         | 2 (4%)   |          |          |          |
| Inflammation                        | 12 (24%) | 19 (38%) | 12 (24%) | 14 (28%) |
| Artery, Inflammation                | 1 (2%)   |          |          |          |
| Seminal Vesicle                     | (50)     | (50)     | (50)     | (50)     |
| Atrophy                             |          | 1 (2%)   |          |          |
| Inflammation                        | 3 (6%)   | 5 (10%)  | 2 (4%)   | 1 (2%)   |
| Testes                              | (50)     | (50)     | (50)     | (50)     |
| Edema                               | 35 (70%) | 32 (64%) | 37 (74%) | 36 (72%) |
| Arteriole, Necrosis, Fibrinoid      |          |          | 1 (2%)   |          |
| Germinal Epithelium, Atrophy        |          | 4 (8%)   | 1 (2%)   | 2 (4%)   |
| Germinal Epithelium, Mineralization |          |          |          | 2 (4%)   |

HEMATOPOIETIC SYSTEM

|                                    |         |      |      |      |
|------------------------------------|---------|------|------|------|
| Bone Marrow                        | (50)    | (50) | (50) | (50) |
| Lymph Node                         | (3)     | (0)  | (2)  | (1)  |
| Mediastinal, Hyperplasia, Lymphoid | 1 (33%) |      |      |      |

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| Wistar Han RATS MALE             | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|----------------------------------|----------|-----------|-----------|------------|
| Renal, Ectasia                   |          |           | 1 (50%)   |            |
| Lymph Node, Mandibular Atrophy   | (49)     | (50)      | (50)      | (48)       |
| Ectasia                          |          | 1 (2%)    |           |            |
| Lymph Node, Mesenteric Atrophy   | (50)     | (50)      | (50)      | (50)       |
| Ectasia                          |          | 1 (2%)    | 1 (2%)    | 4 (8%)     |
| Hyperplasia, Lymphoid Necrosis   |          | 1 (2%)    |           |            |
| Spleen                           | (50)     | (50)      | (50)      | (50)       |
| Angiectasis                      |          | 1 (2%)    |           |            |
| Congestion                       |          | 1 (2%)    |           |            |
| Hematopoietic Cell Proliferation | 8 (16%)  | 15 (30%)  | 9 (18%)   | 10 (20%)   |
| Necrosis                         | 1 (2%)   |           |           |            |
| Capsule, Fibrosis                |          | 1 (2%)    |           |            |
| Lymphoid Follicle, Atrophy       | 6 (12%)  | 5 (10%)   |           | 2 (4%)     |
| Thymus                           | (49)     | (49)      | (49)      | (50)       |
| Atrophy                          | 39 (80%) | 46 (94%)  | 44 (90%)  | 45 (90%)   |
| Hyperplasia                      | 1 (2%)   |           |           |            |
| Inflammation, Chronic            | 1 (2%)   |           |           |            |
| <b>INTEGUMENTARY SYSTEM</b>      |          |           |           |            |
| Mammary Gland                    | (47)     | (50)      | (50)      | (50)       |
| Skin                             | (50)     | (50)      | (50)      | (50)       |
| Inflammation                     | 1 (2%)   |           |           |            |
| Ulcer                            | 10 (20%) | 7 (14%)   | 3 (6%)    | 6 (12%)    |
| Epidermis, Hyperplasia           |          | 1 (2%)    |           |            |
| <b>MUSCULOSKELETAL SYSTEM</b>    |          |           |           |            |
| Bone                             | (50)     | (50)      | (50)      | (50)       |
| Osteosclerosis                   |          |           |           | 1 (2%)     |
| Skeletal Muscle                  | (1)      | (0)       | (0)       | (1)        |

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| Wistar Han RATS MALE               | 0 mg/kg | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|------------------------------------|---------|-----------|-----------|------------|
| <b>NERVOUS SYSTEM</b>              |         |           |           |            |
| Brain                              | (50)    | (50)      | (50)      | (50)       |
| Compression                        | 9 (18%) | 12 (24%)  | 9 (18%)   | 5 (10%)    |
| Gliosis                            |         |           |           | 1 (2%)     |
| Peripheral Nerve                   | (0)     | (2)       | (1)       | (0)        |
| Axon, Degeneration                 |         | 1 (50%)   | 1 (100%)  |            |
| Spinal Cord                        | (0)     | (2)       | (1)       | (0)        |
| Axon, Degeneration                 |         | 1 (50%)   | 1 (100%)  |            |
| <b>RESPIRATORY SYSTEM</b>          |         |           |           |            |
| Lung                               | (50)    | (50)      | (50)      | (50)       |
| Foreign Body                       |         |           |           | 1 (2%)     |
| Hemorrhage                         |         | 1 (2%)    |           |            |
| Inflammation, Granulomatous        | 2 (4%)  | 2 (4%)    |           | 3 (6%)     |
| Inflammation, Chronic              | 8 (16%) | 6 (12%)   | 6 (12%)   | 6 (12%)    |
| Metaplasia, Osseous                |         |           |           | 3 (6%)     |
| Alveolar Epithelium, Necrosis      |         | 1 (2%)    |           |            |
| Alveolus, Inflammation             | 1 (2%)  |           |           |            |
| Arteriole, Thrombosis              |         | 1 (2%)    |           |            |
| Bronchiole, Hyperplasia            | 3 (6%)  | 2 (4%)    | 1 (2%)    | 4 (8%)     |
| Vein, Necrosis                     |         |           |           | 1 (2%)     |
| Nose                               | (50)    | (50)      | (50)      | (50)       |
| Inflammation                       | 8 (16%) | 5 (10%)   | 7 (14%)   | 8 (16%)    |
| Ulcer                              | 1 (2%)  |           |           |            |
| Goblet Cell, Hyperplasia           | 1 (2%)  |           |           | 1 (2%)     |
| Olfactory Epithelium, Degeneration |         |           | 2 (4%)    |            |
| Trachea                            | (50)    | (50)      | (50)      | (50)       |
| Inflammation                       | 2 (4%)  |           |           |            |
| Inflammation, Chronic              |         | 1 (2%)    |           |            |
| Perforation                        |         |           |           | 1 (2%)     |
| Peritracheal Tissue, Inflammation  | 1 (2%)  |           |           |            |

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| Wistar Han RATS MALE                        | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|---|----------|-----------|-----------|------------|
| <b>SPECIAL SENSES SYSTEM</b>                |          |           |           |            |
| Eye   | (50)     | (50)      | (50)      | (50)       |
| Cataract                                    |          |           | 1 (2%)    |            |
| Inflammation                                | 1 (2%)   |           |           |            |
| Inflammation, Acute                         |          | 1 (2%)    |           |            |
| Retina, Atrophy                             | 1 (2%)   | 1 (2%)    | 3 (6%)    |            |
| Harderian Gland                             | (49)     | (50)      | (50)      | (50)       |
| Hyperplasia                                 |          | 1 (2%)    | 1 (2%)    | 2 (4%)     |
| Inflammation                                | 1 (2%)   |           |           |            |
| <b>URINARY SYSTEM</b>                       |          |           |           |            |
| Kidney                                      | (50)     | (50)      | (50)      | (50)       |
| Cyst  | 1 (2%)   | 1 (2%)    | 4 (8%)    | 3 (6%)     |
| Hydronephrosis                              |          | 2 (4%)    | 1 (2%)    | 1 (2%)     |
| Infarct                                     |          |           |           | 1 (2%)     |
| Inflammation, Suppurative, Multifocal       |          | 1 (2%)    |           |            |
| Inflammation, Suppurative                   |          |           |           | 1 (2%)     |
| Inflammation, Chronic                       |          |           |           | 2 (4%)     |
| Metaplasia, Lipocyte                        |          |           | 1 (2%)    |            |
| Metaplasia, Osseous                         |          |           |           | 1 (2%)     |
| Nephropathy                                 | 39 (78%) | 30 (60%)  | 35 (70%)  | 31 (62%)   |
| Pelvis, Inflammation, Suppurative           | 4 (8%)   | 2 (4%)    | 2 (4%)    | 5 (10%)    |
| Renal Tubule, Accumulation, Hyaline Droplet | 1 (2%)   |           | 1 (2%)    |            |
| Renal Tubule, Dilatation                    |          |           | 1 (2%)    |            |
| Urethra                                     | (1)      | (0)       | (0)       | (0)        |
| Inflammation, Chronic                       | 1 (100%) |           |           |            |
| Urinary Bladder                             | (50)     | (50)      | (50)      | (50)       |
| Inflammation                                |          |           | 1 (2%)    |            |
| Transitional Epithelium, Hyperplasia        |          | 1 (2%)    |           |            |

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Wistar Han RATS MALE

0 mg/kg

250 mg/kg

500 mg/kg

1000 mg/kg

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

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|                        |         |           |           |            |
|------------------------|---------|-----------|-----------|------------|
| Wistar Han RATS FEMALE | 0 mg/kg | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|------------------------|---------|-----------|-----------|------------|

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**Disposition Summary**

|   |           |           |           |           |
|---|-----------|-----------|-----------|-----------|
| <b>Animals Initially In Study</b>       | <b>60</b> | <b>50</b> | <b>50</b> | <b>60</b> |
| <b>Early Deaths</b>                     |           |           |           |           |
| <b>Dosing Accident</b>                  | <b>3</b>  |           |           | <b>4</b>  |
| <b>Moribund Sacrifice</b>               | <b>8</b>  | <b>14</b> | <b>15</b> | <b>10</b> |
| <b>Natural Death</b>                    | <b>4</b>  | <b>2</b>  | <b>6</b>  | <b>3</b>  |
| <b>Survivors</b>                        |           |           |           |           |
| <b>Moribund Sacrifice</b>               | <b>1</b>  |           |           | <b>1</b>  |
| <b>Terminal Sacrifice</b>               | <b>34</b> | <b>34</b> | <b>29</b> | <b>32</b> |
| <b>Animals Examined Microscopically</b> | <b>50</b> | <b>50</b> | <b>50</b> | <b>50</b> |

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**ALIMENTARY SYSTEM**

|                              |          |          |          |          |
|------------------------------|----------|----------|----------|----------|
| Esophagus                    | (50)     | (49)     | (50)     | (50)     |
| Inflammation                 | 1 (2%)   |          |          |          |
| Inflammation, Acute          |          |          |          | 1 (2%)   |
| Perforation                  | 3 (6%)   |          |          | 3 (6%)   |
| Intestine Large, Cecum       | (50)     | (49)     | (50)     | (50)     |
| Inflammation                 |          |          | 1 (2%)   |          |
| Inflammation, Suppurative    |          | 1 (2%)   |          |          |
| Intestine Large, Colon       | (50)     | (50)     | (50)     | (50)     |
| Inflammation, Suppurative    |          | 1 (2%)   |          |          |
| Parasite Metazoan            |          | 1 (2%)   |          |          |
| Intestine Large, Rectum      | (50)     | (50)     | (50)     | (50)     |
| Parasite Metazoan            | 3 (6%)   | 2 (4%)   | 2 (4%)   | 1 (2%)   |
| Intestine Small              | (0)      | (1)      | (0)      | (0)      |
| Intestine Small, Duodenum    | (50)     | (50)     | (50)     | (50)     |
| Intestine Small, Ileum       | (50)     | (49)     | (50)     | (50)     |
| Parasite Metazoan            | 1 (2%)   |          | 1 (2%)   |          |
| Lymphoid Tissue, Hyperplasia |          |          |          | 1 (2%)   |
| Intestine Small, Jejunum     | (50)     | (50)     | (50)     | (50)     |
| Liver                        | (50)     | (50)     | (50)     | (50)     |
| Angiectasis                  | 1 (2%)   | 1 (2%)   |          |          |
| Basophilic Focus             | 47 (94%) | 38 (76%) | 40 (80%) | 47 (94%) |
| Clear Cell Focus             | 24 (48%) | 19 (38%) | 19 (38%) | 18 (36%) |

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

Experiment Number: 20320 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
 Tetrabromobisphenol A  
 CAS Number: 79-94-7

Date Report Requested: 01/23/2013  
 Time Report Requested: 15:06:22  
 First Dose M/F: 07/25/07 / 07/26/07  
 Lab: BAT

| Wistar Han RATS FEMALE           | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|----------------------------------|----------|-----------|-----------|------------|
| Congestion                       | 1 (2%)   |           |           |            |
| Cyst                             |          | 1 (2%)    |           |            |
| Eosinophilic Focus               | 1 (2%)   | 2 (4%)    | 3 (6%)    | 1 (2%)     |
| Fatty Change                     | 11 (22%) | 12 (24%)  | 7 (14%)   | 7 (14%)    |
| Hematopoietic Cell Proliferation | 1 (2%)   |           |           |            |
| Hepatodiaphragmatic Nodule       | 1 (2%)   |           | 1 (2%)    |            |
| Inflammation, Suppurative        |          | 1 (2%)    |           |            |
| Mixed Cell Focus                 | 13 (26%) | 22 (44%)  | 12 (24%)  | 20 (40%)   |
| Necrosis                         |          | 1 (2%)    | 4 (8%)    | 2 (4%)     |
| Pigmentation                     |          | 1 (2%)    |           |            |
| Bile Duct, Cyst                  | 2 (4%)   |           | 3 (6%)    | 1 (2%)     |
| Bile Duct, Hyperplasia           | 11 (22%) | 29 (58%)  | 21 (42%)  | 20 (40%)   |
| Centrilobular, Necrosis          |          |           | 1 (2%)    |            |
| Oval Cell, Hyperplasia           |          |           |           | 1 (2%)     |
| Mesentery                        | (2)      | (8)       | (5)       | (4)        |
| Fat, Necrosis                    | 2 (100%) | 3 (38%)   | 2 (40%)   | 2 (50%)    |
| Pancreas                         | (50)     | (50)      | (50)      | (50)       |
| Acinus, Atrophy                  | 4 (8%)   | 4 (8%)    | 1 (2%)    |            |
| Duct, Cyst                       | 2 (4%)   |           |           |            |
| Salivary Glands                  | (50)     | (48)      | (49)      | (49)       |
| Duct, Hyperplasia                | 1 (2%)   |           |           |            |
| Duct, Metaplasia, Squamous       | 1 (2%)   |           |           |            |
| Stomach, Forestomach             | (50)     | (50)      | (50)      | (50)       |
| Inflammation, Suppurative        |          | 1 (2%)    |           |            |
| Inflammation, Chronic            | 2 (4%)   | 1 (2%)    | 2 (4%)    | 2 (4%)     |
| Ulcer                            | 1 (2%)   |           | 1 (2%)    |            |
| Epithelium, Hyperplasia          |          |           |           | 1 (2%)     |
| Stomach, Glandular               | (50)     | (50)      | (50)      | (50)       |
| Inflammation, Suppurative        |          | 1 (2%)    |           |            |
| Inflammation, Acute              |          |           | 1 (2%)    |            |
| Inflammation, Chronic            | 1 (2%)   | 2 (4%)    |           |            |
| Mineralization                   | 6 (12%)  | 1 (2%)    | 1 (2%)    | 2 (4%)     |
| Ulcer                            |          | 1 (2%)    | 2 (4%)    |            |

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

Experiment Number: 20320 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
 Tetrabromobisphenol A  
 CAS Number: 79-94-7

Date Report Requested: 01/23/2013  
 Time Report Requested: 15:06:22  
 First Dose M/F: 07/25/07 / 07/26/07  
 Lab: BAT

| Wistar Han RATS FEMALE           | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|----------------------------------|----------|-----------|-----------|------------|
| <b>CARDIOVASCULAR SYSTEM</b>     |          |           |           |            |
| Blood Vessel                     | (50)     | (50)      | (50)      | (50)       |
| Mineralization                   | 1 (2%)   |           |           |            |
| Heart                            | (50)     | (50)      | (50)      | (50)       |
| Cardiomyopathy                   | 9 (18%)  | 10 (20%)  | 3 (6%)    | 7 (14%)    |
| Congestion                       | 1 (2%)   |           |           |            |
| Endocardium, Hyperplasia         | 2 (4%)   | 2 (4%)    | 1 (2%)    |            |
| Myocardium, Mineralization       | 1 (2%)   |           |           |            |
| Pericardium, Inflammation, Acute |          |           |           | 1 (2%)     |
| <b>ENDOCRINE SYSTEM</b>          |          |           |           |            |
| Adrenal Cortex                   | (50)     | (50)      | (50)      | (50)       |
| Angiectasis                      | 12 (24%) | 7 (14%)   | 6 (12%)   | 9 (18%)    |
| Degeneration, Cystic             | 1 (2%)   | 1 (2%)    | 1 (2%)    |            |
| Fibrosis                         |          |           | 1 (2%)    |            |
| Hyperplasia                      | 7 (14%)  | 7 (14%)   | 7 (14%)   | 11 (22%)   |
| Inflammation, Suppurative        |          |           |           | 1 (2%)     |
| Mineralization                   |          |           |           | 1 (2%)     |
| Necrosis                         |          | 1 (2%)    |           |            |
| Vacuolization Cytoplasmic        | 2 (4%)   | 3 (6%)    | 5 (10%)   | 2 (4%)     |
| Capsule, Fibrosis                | 1 (2%)   |           |           |            |
| Adrenal Medulla                  | (49)     | (50)      | (50)      | (50)       |
| Hemorrhage                       |          |           |           | 2 (4%)     |
| Hyperplasia                      | 2 (4%)   | 2 (4%)    |           | 2 (4%)     |
| Inflammation, Suppurative        |          |           |           | 1 (2%)     |
| Thrombosis                       |          |           | 1 (2%)    |            |
| Islets, Pancreatic               | (50)     | (50)      | (50)      | (50)       |
| Hyperplasia                      | 1 (2%)   | 1 (2%)    | 1 (2%)    | 1 (2%)     |
| Parathyroid Gland                | (48)     | (39)      | (48)      | (49)       |
| Pituitary Gland                  | (50)     | (50)      | (50)      | (50)       |
| Angiectasis                      | 1 (2%)   |           |           |            |
| Cyst                             | 1 (2%)   | 1 (2%)    | 1 (2%)    |            |
| Pars Distalis, Hyperplasia       | 16 (32%) | 13 (26%)  | 14 (28%)  | 19 (38%)   |

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

Experiment Number: 20320 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
 Tetrabromobisphenol A  
 CAS Number: 79-94-7

Date Report Requested: 01/23/2013  
 Time Report Requested: 15:06:22  
 First Dose M/F: 07/25/07 / 07/26/07  
 Lab: BAT

| Wistar Han RATS FEMALE       | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|------------------------------|----------|-----------|-----------|------------|
| Pars Intermedia, Hyperplasia | 2 (4%)   | 3 (6%)    | 2 (4%)    | 1 (2%)     |
| Thyroid Gland                | (50)     | (48)      | (50)      | (50)       |
| C-cell, Hyperplasia          | 32 (64%) | 37 (77%)  | 39 (78%)  | 36 (72%)   |
| Follicle, Hyperplasia        | 2 (4%)   | 4 (8%)    | 3 (6%)    | 1 (2%)     |
| Follicular Cell, Hyperplasia | 1 (2%)   |           |           |            |

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

|                                       |          |          |          |          |
|---------------------------------------|----------|----------|----------|----------|
| Clitoral Gland                        | (50)     | (50)     | (50)     | (50)     |
| Hyperplasia                           |          |          | 1 (2%)   |          |
| Inflammation                          | 4 (8%)   | 2 (4%)   | 4 (8%)   | 5 (10%)  |
| Ovary                                 | (50)     | (49)     | (50)     | (49)     |
| Cyst                                  | 1 (2%)   | 4 (8%)   | 4 (8%)   | 6 (12%)  |
| Inflammation, Acute                   | 1 (2%)   |          |          |          |
| Stromal Hyperplasia, Mixed Cell       | 1 (2%)   |          |          |          |
| Bilateral, Cyst                       | 1 (2%)   |          |          |          |
| Bursa, Dilatation                     | 4 (8%)   | 2 (4%)   | 5 (10%)  | 8 (16%)  |
| Rete Ovarii, Cyst                     | 1 (2%)   |          | 6 (12%)  | 6 (12%)  |
| Uterus                                | (50)     | (50)     | (50)     | (50)     |
| Adenomyosis                           |          |          |          | 2 (4%)   |
| Cyst                                  | 1 (2%)   |          |          | 1 (2%)   |
| Dilatation                            | 1 (2%)   | 4 (8%)   | 3 (6%)   | 2 (4%)   |
| Hyperplasia, Glandular, Focal         |          |          | 1 (2%)   |          |
| Inflammation, Suppurative             | 7 (14%)  | 3 (6%)   | 2 (4%)   | 3 (6%)   |
| Ulcer                                 |          |          |          | 1 (2%)   |
| Cervix, Hyperplasia, Stromal          |          | 1 (2%)   | 4 (8%)   | 2 (4%)   |
| Endometrium, Hyperplasia, Adenomatous |          |          |          | 1 (2%)   |
| Endometrium, Hyperplasia, Cystic      | 8 (16%)  | 13 (26%) | 11 (22%) | 18 (36%) |
| Vagina                                | (1)      | (1)      | (1)      | (1)      |
| Cyst                                  |          |          | 1 (100%) |          |
| Necrosis                              | 1 (100%) |          |          |          |

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

Experiment Number: 20320 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
 Tetrabromobisphenol A  
 CAS Number: 79-94-7

Date Report Requested: 01/23/2013  
 Time Report Requested: 15:06:22  
 First Dose M/F: 07/25/07 / 07/26/07  
 Lab: BAT

| Wistar Han RATS FEMALE           | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|----------------------------------|----------|-----------|-----------|------------|
| <b>HEMATOPOIETIC SYSTEM</b>      |          |           |           |            |
| Bone Marrow                      | (50)     | (50)      | (50)      | (50)       |
| Lymph Node                       | (0)      | (1)       | (1)       | (0)        |
| Mediastinal, Congestion          |          | 1 (100%)  |           |            |
| Mediastinal, Ectasia             |          |           | 1 (100%)  |            |
| Lymph Node, Mandibular           | (50)     | (48)      | (49)      | (49)       |
| Lymph Node, Mediastinal          | (0)      | (0)       | (1)       | (0)        |
| Lymph Node, Mesenteric           | (50)     | (50)      | (50)      | (50)       |
| Hyperplasia, Plasma Cell         |          | 1 (2%)    |           |            |
| Inflammation, Suppurative        |          | 1 (2%)    |           |            |
| Spleen                           | (50)     | (50)      | (50)      | (50)       |
| Hematopoietic Cell Proliferation | 26 (52%) | 30 (60%)  | 26 (52%)  | 26 (52%)   |
| Inflammation, Suppurative        |          | 1 (2%)    |           |            |
| Lymphoid Follicle, Atrophy       | 3 (6%)   | 2 (4%)    | 2 (4%)    | 1 (2%)     |
| Red Pulp, Atrophy                |          | 1 (2%)    |           |            |
| Thymus                           | (50)     | (50)      | (49)      | (50)       |
| Atrophy                          | 43 (86%) | 43 (86%)  | 40 (82%)  | 45 (90%)   |
| Cyst                             |          |           | 1 (2%)    |            |
| Hemorrhage                       |          |           |           | 1 (2%)     |
| Hyperplasia                      | 1 (2%)   | 2 (4%)    |           |            |
| Epithelial Cell, Hyperplasia     |          | 1 (2%)    |           |            |
| <b>INTEGUMENTARY SYSTEM</b>      |          |           |           |            |
| Mammary Gland                    | (50)     | (50)      | (50)      | (50)       |
| Galactocele                      | 3 (6%)   | 1 (2%)    | 2 (4%)    | 2 (4%)     |
| Hyperplasia                      | 1 (2%)   | 2 (4%)    |           |            |
| Inflammation, Suppurative        |          |           |           | 1 (2%)     |
| Skin                             | (50)     | (50)      | (50)      | (50)       |
| Inflammation                     |          |           | 1 (2%)    |            |
| Ulcer                            |          |           | 1 (2%)    |            |
| Epidermis, Hyperplasia           |          |           |           | 1 (2%)     |
| Vein, Cyst                       |          |           |           | 1 (2%)     |

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

Experiment Number: 20320 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

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 Tetrabromobisphenol A  
 CAS Number: 79-94-7

Date Report Requested: 01/23/2013  
 Time Report Requested: 15:06:22  
 First Dose M/F: 07/25/07 / 07/26/07  
 Lab: BAT

| Wistar Han RATS FEMALE            | 0 mg/kg  | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|-----------------------------------|----------|-----------|-----------|------------|
| <b>MUSCULOSKELETAL SYSTEM</b>     |          |           |           |            |
| Bone                              | (50)     | (50)      | (50)      | (50)       |
| Fracture                          |          |           |           | 1 (2%)     |
| Hyperplasia                       |          |           | 1 (2%)    |            |
| Skeletal Muscle                   | (0)      | (2)       | (1)       | (1)        |
| Inflammation, Acute               |          |           |           | 1 (100%)   |
| <b>NERVOUS SYSTEM</b>             |          |           |           |            |
| Brain                             | (50)     | (50)      | (50)      | (50)       |
| Compression                       | 11 (22%) | 10 (20%)  | 9 (18%)   | 6 (12%)    |
| Hippocampus, Necrosis             | 1 (2%)   |           |           |            |
| Meninges, Inflammation, Acute     | 1 (2%)   |           |           |            |
| Peripheral Nerve                  | (0)      | (1)       | (0)       | (0)        |
| Spinal Cord                       | (0)      | (1)       | (0)       | (0)        |
| <b>RESPIRATORY SYSTEM</b>         |          |           |           |            |
| Lung                              | (50)     | (50)      | (50)      | (50)       |
| Congestion                        |          |           | 1 (2%)    |            |
| Inflammation, Granulomatous       | 1 (2%)   | 2 (4%)    |           | 4 (8%)     |
| Inflammation, Chronic             | 2 (4%)   |           | 3 (6%)    | 1 (2%)     |
| Alveolar Epithelium, Hyperplasia  | 1 (2%)   | 2 (4%)    | 1 (2%)    |            |
| Bronchiole, Hyperplasia           | 1 (2%)   | 1 (2%)    |           | 1 (2%)     |
| Serosa, Inflammation, Suppurative |          |           |           | 1 (2%)     |
| Nose                              | (50)     | (50)      | (50)      | (50)       |
| Inflammation                      | 11 (22%) | 8 (16%)   | 7 (14%)   | 9 (18%)    |
| Trachea                           | (50)     | (49)      | (50)      | (50)       |
| Inflammation                      | 2 (4%)   |           |           |            |

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

Experiment Number: 20320 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

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Tetrabromobisphenol A  
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Lab: BAT

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| Wistar Han RATS FEMALE            | 0 mg/kg | 250 mg/kg | 500 mg/kg | 1000 mg/kg |
|-----------------------------------|---------|-----------|-----------|------------|
| <b>SPECIAL SENSES SYSTEM</b>      |         |           |           |            |
| Eye                               | (50)    | (48)      | (49)      | (49)       |
| Cataract                          |         |           | 2 (4%)    | 1 (2%)     |
| Degeneration                      | 1 (2%)  |           |           | 1 (2%)     |
| Malformation                      | 1 (2%)  |           |           |            |
| Cornea, Inflammation              |         | 1 (2%)    |           |            |
| Retina, Atrophy                   |         | 2 (4%)    | 3 (6%)    | 4 (8%)     |
| Harderian Gland                   | (50)    | (48)      | (49)      | (49)       |
| Inflammation                      |         | 1 (2%)    |           | 1 (2%)     |
| <hr/>                             |         |           |           |            |
| <b>URINARY SYSTEM</b>             |         |           |           |            |
| Kidney                            | (50)    | (50)      | (50)      | (50)       |
| Accumulation, Hyaline Droplet     |         |           |           | 1 (2%)     |
| Cyst                              | 2 (4%)  | 1 (2%)    | 2 (4%)    |            |
| Hydronephrosis                    | 1 (2%)  | 1 (2%)    |           | 2 (4%)     |
| Infarct                           |         | 1 (2%)    | 1 (2%)    |            |
| Inflammation, Suppurative         |         | 2 (4%)    |           | 1 (2%)     |
| Inflammation, Chronic             | 1 (2%)  |           |           |            |
| Nephropathy                       | 9 (18%) | 15 (30%)  | 13 (26%)  | 9 (18%)    |
| Thrombosis                        |         | 2 (4%)    |           |            |
| Pelvis, Inflammation, Suppurative | 2 (4%)  | 4 (8%)    | 3 (6%)    | 1 (2%)     |
| Renal Tubule, Autolysis           | 1 (2%)  | 1 (2%)    | 1 (2%)    |            |
| Urinary Bladder                   | (50)    | (50)      | (50)      | (50)       |
| Inflammation                      | 1 (2%)  |           |           | 1 (2%)     |

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

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