TDMS No. 96019 - 06 Test Type: CHRONIC Route: DOSED WATER P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

**Species/Strain:** MICE/B6C3F1 **Pathologist:** HEATH, J. - Unknown, U.

F1\_M3\_CORE

First Dose M/F: 10/10/01 / 10/10/01 Lab: SRI

Date Report Regsted: 08/21/2006

Time Report Reqsted: 10:19:09

C Number:

C96019

Lock Date:

07/14/2004

Cage Range:

ALL

**Date Range:** 

ALL

**Reasons For Removal:** 

25021 TSAC

25020 NATD

25019 MSAC

Removal Date Range: ALL

**Treatment Groups:** 

Include ALL

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

Date Report Reqsted: 08/21/2006 Time Report Reqsted: 10:19:09 First Dose M/F: 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE MALE  | 0 MG/L             | 250 MG/L  | 500 MG/L       | 1000 MG/L                  |  |
|---|--------------------|-----------|----------------|----------------------------|--|
| Disposition Summary   |                    |           |                |                            |  |
| Animals Initially in Study<br>Early Deaths                    | 66                 | 66        | 66             | 66                         |  |
| Moribund Sacrifice<br>Natural Death                           | 6<br>6             | 5<br>10   | 9<br>11        | 15<br>14                   |  |
| Survivors   | · ·                | . 0       | • •            |                            |  |
| Terminal Sacrifice Animals Examined Microscopically           | 38<br>50           | 35<br>50  | 30<br>50       | 21<br>50                   |  |
| ALIMENTARY SYSTEM   |                    |           |                |                            |  |
| Esophagus   | (50)               | (50)      | (49)           | (50)                       |  |
| Ulcer<br>Intestine Large, Cecum<br>Developmental Malformation | 1 (2%)<br>(49)     | (49)      | (49)           | (49)<br>1 (2%)             |  |
| Edema Inflammation  | 1 (2%)             | 1 (2%)    |                | 1 (2%)<br>1 (2%)<br>1 (2%) |  |
| Intestine Large, Colon<br>Ulcer                               | (50)               | (50)      | (50)<br>1 (2%) | (50)                       |  |
| Intestine Small, Duodenum                                     | (48)               | (47)      | (48)           | (47)                       |  |
| Intestine Small, Jejunum                                      | (47)               | (47)      | (46)           | (47)                       |  |
| Developmental Malformation                                    | ( /                | (,        | (10)           | 1 (2%)                     |  |
| Hyperplasia, Lymphoid   |                    |           | 1 (2%)         | ( /                        |  |
| Epithelium, Hyperplasia                                       |                    |           | , ,            | 1 (2%)                     |  |
| Peyer's Patch, Inflammation, Suppurative                      |                    |           | 1 (2%)         | ·                          |  |
| Liver   | (50)               | (50)      | (50)           | (50)                       |  |
| Amyloid Deposition  | 1 (2%)             |           |                |                            |  |
| Angiectasis   | 2 (4%)             | 44 (000() | 0 (4004)       | 4 (00()                    |  |
| Basophilic Focus  | 5 (10%)            | 11 (22%)  | 8 (16%)        | 4 (8%)                     |  |
| Clear Cell Focus  | 15 (30%)           | 9 (18%)   | 4 (8%)         | 1 (2%)                     |  |
| Eosinophilic Focus<br>Fibrosis                                | 20 (40%)<br>1 (2%) | 25 (50%)  | 14 (28%)       | 19 (38%)                   |  |
| Hematopoietic Cell Proliferation                              | 1 (2%)             | 1 (2%)    | 2 (4%)         | 3 (6%)                     |  |
| Hemorrhage  | 1 (2%)             | 1 (2/0)   | 1 (2%)         | 3 (0 %)                    |  |
| Infarct   | 1 (2%)             |           | 1 (2/0)        |                            |  |
| Infiltration Cellular, Mixed Cell                             | 4 (8%)             | 1 (2%)    | 2 (4%)         | 2 (4%)                     |  |
| Mixed Cell Focus  | 5 (10%)            | 9 (18%)   | 6 (12%)        | 4 (8%)                     |  |
| Necrosis, Focal   | 5 (10%)            | 5 (10%)   | 7 (14%)        | 7 (14%)                    |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

Date Report Reqsted: 08/21/2006 Time Report Reqsted: 10:19:09 First Dose M/F: 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE MALE                      | 0 MG/L          | 250 MG/L | 500 MG/L        | 1000 MG/L |  |
|---------------------------------------|-----------------|----------|-----------------|-----------|--|
| Regeneration                          | 1 (2%)          |          |                 |           |  |
| Bile Duct, Cyst Multilocular          | 1 (2%)          |          |                 |           |  |
| Centrilobular, Necrosis               | 1 (2%)          | 2 (4%)   | 4 (8%)          | 8 (16%)   |  |
| Hepatocyte, Fatty Change              | 1 (270)         | 2 (470)  | 1 (2%)          | 0 (1070)  |  |
| Hepatocyte, Vacuolization Cytoplasmic | 3 (6%)          | 12 (24%) | 17 (34%)        | 19 (38%)  |  |
| Mesentery                             | (15)            | (12)     | (8)             | (8)       |  |
| Angiectasis                           | (10)            | 1 (8%)   | (0)             | (0)       |  |
| Fat, Necrosis                         | 15 (100%)       | 9 (75%)  | 6 (75%)         | 3 (38%)   |  |
| Pancreas                              | (50)            | (50)     | (50)            | (50)      |  |
| Necrosis                              | (00)            | (00)     | (55)            | 1 (2%)    |  |
| Acinus, Cytoplasmic Alteration        | 2 (4%)          | 5 (10%)  | 5 (10%)         | 8 (16%)   |  |
| Salivary Glands                       | (50)            | (50)     | (50)            | (50)      |  |
| Hyperplasia, Lymphoid                 | 2 (4%)          | 4 (8%)   | 3 (6%)          | 5 (10%)   |  |
| Necrosis                              | _ ( · · · · · ) | 1 (2%)   | - (- <i>1</i> ) | - (1272)  |  |
| Stomach, Forestomach                  | (50)            | (50)     | (49)            | (50)      |  |
| Diverticulum                          | ()              | ()       | (12)            | 2 (4%)    |  |
| Dysplasia                             |                 |          | 1 (2%)          | ( )       |  |
| Inflammation, Chronic                 |                 | 1 (2%)   | ( /             | 3 (6%)    |  |
| Ulcer                                 | 2 (4%)          | 2 (4%)   | 3 (6%)          | 3 (6%)    |  |
| Epithelium, Hyperplasia, Squamous     | 6 (Ì2%́)        | 6 (12%)  | 5 (10%)         | 9 (Ì8%́)  |  |
| Stomach, Glandular                    | (50)            | (50)     | (49)            | (50)      |  |
| Erosion                               | 3 (6%)          | 2 (4%)   | 4 (8%)          | 3 (6%)    |  |
| Metaplasia, Atypical                  | ,               | , ,      | , ,             | 1 (2%)    |  |
| Ulcer                                 | 2 (4%)          |          | 1 (2%)          | , ,       |  |
| Glands, Hyperplasia                   | 1 (2%)          | 1 (2%)   | 1 (2%)          | 2 (4%)    |  |
| Tooth                                 | (2)             | (0)      | (0)             | (0)       |  |
| Malformation                          | 1 (50%)         |          |                 |           |  |
| ARDIOVASCULAR SYSTEM                  |                 |          |                 |           |  |
| Blood Vessel                          | (2)             | (2)      | (1)             | (4)       |  |
| Hypertrophy                           |                 | 1 (50%)  |                 | 1 (25%)   |  |
| Inflammation, Chronic                 |                 | 1 (50%)  |                 | 1 (25%)   |  |
| Heart                                 | (50)            | (50)     | (50)            | (50)      |  |
| Cardiomyopathy                        | 4 (8%)          | 1 (2%)   | 1 (2%)          | 1 (2%)    |  |
| Hemorrhage                            |                 | 1 (2%)   |                 |           |  |
| Inflammation, Chronic                 | 3 (6%)          | 1 (2%)   | 3 (6%)          | 3 (6%)    |  |
| Mineralization                        | 1 (2%)          | 1 (2%)   | 2 (4%)          | 5 (10%)   |  |
| Thrombosis                            |                 | 1 (2%)   | 1 (2%)          |           |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE MALE   | 0 MG/L   | 250 MG/L   | 500 MG/L  | 1000 MG/L   |  |
|--|--|--|---|---|--|
| ENDOCRINE SYSTEM   |  |  |   |   |  |
| Adrenal Cortex<br>Accessory Adrenal Cortical Nodule<br>Angiectasis   | (50)<br>2 (4%)   | (50)<br>7 (14%)  | (50)<br>2 (4%)  | (50)<br>2 (4%)<br>1 (2%)  |  |
| Degeneration, Fatty Hyperplasia, Focal Hypertrophy, Focal Capsule, Hyperplasia Adrenal Medulla Hyperplasia Islets, Pancreatic Hyperplasia Parathyroid Gland Cyst Pituitary Gland Pars Distalis, Cyst Thyroid Gland Follicle, Cyst Follicle, Degeneration, Focal Follicular Cell, Hyperplasia | 1 (2%) 1 (2%) 5 (10%) 8 (16%) (50) 1 (2%) (50) 35 (70%) (32) (50) 5 (10%) (50) 1 (2%) 9 (18%) 18 (36%) | 1 (2%) 8 (16%) 10 (20%) (50) 2 (4%) (50) 29 (58%) (40) 2 (5%) (50) 6 (12%) (50) 1 (2%) 18 (36%) 14 (28%) | 3 (6%) 2 (4%) (50) 1 (2%) (48) 21 (44%) (37) 1 (3%) (48) 3 (6%) (50) 2 (4%) 10 (20%) 14 (28%) | 1 (2%) 2 (4%) 2 (4%) (47) (50) 10 (20%) (38) 1 (3%) (49) 3 (6%) (50) 2 (4%) 8 (16%) 5 (10%) |  |
| GENERAL BODY SYSTEM  |  |  |   |   |  |
| Tissue NOS   | (0)  | (0)  | (0)   | (1)   |  |
| GENITAL SYSTEM   |  |  |   |   |  |
| Epididymis<br>Granuloma Sperm<br>Inflammation, Chronic   | (50)<br>1 (2%)<br>1 (2%)   | (50)<br>1 (2%)   | (50)  | (50)  |  |
| Necrosis<br>Spermatocele<br>Preputial Gland<br>Foreign Body<br>Granuloma   | (48)   | 1 (2%)<br>(50)   | (50)  | 1 (2%)<br>(50)<br>1 (2%)<br>1 (2%)  |  |
| Hyperplasia<br>Inflammation, Chronic<br>Duct, Ectasia<br>Prostate  | 1 (2%)<br>19 (40%)<br>41 (85%)<br>(50)   | 27 (54%)<br>41 (82%)<br>(50)   | 21 (42%)<br>41 (82%)<br>(50)  | 22 (44%)<br>47 (94%)<br>(50)  |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE MALE                        | 0 MG/L   | 250 MG/L | 500 MG/L | 1000 MG/L |  |
|---|----------|----------|----------|-----------|--|
| Inflammation, Chronic                   | 2 (4%)   | 3 (6%)   | 2 (4%)   | 1 (2%)    |  |
| Seminal Vesicle                         | (50)     | (50)     | (50)     | (50)      |  |
| Degeneration                            | 1 (2%)   | 1 (2%)   | 1 (2%)   | 1 (2%)    |  |
| Inflammation, Chronic                   | 1 (2%)   | ,        | , ,      | ,         |  |
| Testes                                  | (50)     | (50)     | (50)     | (50)      |  |
| Angiectasis                             | 1 (2%)   |          |          |           |  |
| Germinal Epithelium, Atrophy            | 4 (8%)   | 3 (6%)   | 3 (6%)   | 8 (16%)   |  |
| HEMATOPOIETIC SYSTEM                    |          |          |          |           |  |
| Bone Marrow                             | (50)     | (48)     | (47)     | (48)      |  |
| Depletion Cellular                      |          | 1 (2%)   |          |           |  |
| Hyperplasia                             | 29 (58%) | 21 (44%) | 31 (66%) | 40 (83%)  |  |
| Lymph Node                              | (5)      | (6)      | (5)      | (3)       |  |
| Iliac, Hematopoietic Cell Proliferation |          | 1 (17%)  | 1 (20%)  |           |  |
| Iliac, Hyperplasia, Lymphoid            | 1 (20%)  | 1 (17%)  |          |           |  |
| Iliac, Pigmentation                     | 2 (40%)  |          | 2 (40%)  |           |  |
| Inguinal, Pigmentation                  |          | 1 (17%)  |          |           |  |
| Mediastinal, Hemorrhage                 |          | 1 (17%)  |          | 3 (100%)  |  |
| Mediastinal, Hyperplasia, Lymphoid      | 1 (20%)  |          | 1 (20%)  |           |  |
| Mediastinal, Pigmentation               |          | 1 (17%)  | 1 (20%)  | 3 (100%)  |  |
| Lymph Node, Mandibular                  | (50)     | (45)     | (41)     | (45)      |  |
| Atrophy                                 | 1 (2%)   | 6 (13%)  | 3 (7%)   | 18 (40%)  |  |
| Hematopoietic Cell Proliferation        | 1 (2%)   | 1 (2%)   | 1 (2%)   |           |  |
| Hyperplasia, Lymphoid                   | 9 (18%)  | 10 (22%) | 4 (10%)  |           |  |
| Pigmentation                            |          | 1 (2%)   | 1 (2%)   | 2 (4%)    |  |
| Lymph Node, Mesenteric                  | (45)     | (45)     | (44)     | (45)      |  |
| Angiectasis                             |          |          |          | 1 (2%)    |  |
| Atrophy                                 | 5 (11%)  | 5 (11%)  | 2 (5%)   | 15 (33%)  |  |
| Ectasia                                 |          |          | 1 (2%)   |           |  |
| Hematopoietic Cell Proliferation        | 1 (2%)   | 2 (4%)   | 2 (5%)   | 3 (7%)    |  |
| Hemorrhage                              | 5 (11%)  | 3 (7%)   | 4 (9%)   | 2 (4%)    |  |
| Hyperplasia, Lymphoid                   | 7 (16%)  | 3 (7%)   | 2 (5%)   | 1 (2%)    |  |
| Spleen                                  | (50)     | (50)     | (50)     | (50)      |  |
| Accessory Spleen                        |          | 1 (2%)   |          |           |  |
| Angiectasis                             |          |          |          | 1 (2%)    |  |
| Fibrosis                                |          |          |          | 1 (2%)    |  |
| Hematopoietic Cell Proliferation        | 20 (40%) | 23 (46%) | 39 (78%) | 40 (80%)  |  |
| Lymphoid Follicle, Atrophy              | 3 (6%)   | 5 (10%)  | 6 (12%)  | 6 (12%)   |  |
| Lymphoid Follicle, Hyperplasia          | 3 (6%)   | 2 (4%)   | 2 (4%)   | 1 (2%)    |  |
| Thymus                                  | (46)     | (40)     | (36)     | (40)      |  |

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

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE MALE  | 0 MG/L   | 250 MG/L   | 500 MG/L  | 1000 MG/L   |  |
|---|--|--|---|---|--|
| Atrophy<br>Cyst<br>Hyperplasia, Lymphoid  | 14 (30%)<br>8 (17%)                            | 22 (55%)<br>4 (10%)                                    | 18 (50%)<br>3 (8%)                              | 24 (60%)<br>3 (8%)<br>1 (3%)                            |  |
| INTEGUMENTARY SYSTEM  |  |  |   |   |  |
| Skin Cyst Epithelial Inclusion Edema Hemorrhage Ulcer Epidermis, Hyperplasia Sebaceous Gland, Hyperplasia | (50)<br>2 (4%)<br>2 (4%)                       | (50)<br>1 (2%)<br>1 (2%)<br>1 (2%)<br>4 (8%)<br>3 (6%) | (50)<br>5 (10%)<br>5 (10%)<br>5 (10%)<br>1 (2%) | (50)<br>1 (2%)<br>4 (8%)<br>4 (8%)                      |  |
| MUSCULOSKELETAL SYSTEM  |  |  |   |   |  |
| Bone Necrosis, Focal Cranium, Osteopetrosis Femur, Fibrous Osteodystrophy Skeletal Muscle Atrophy         | (50)<br>(2)<br>1 (50%)                         | (50)<br>1 (2%)<br>(3)                                  | (50)<br>1 (2%)<br>(2)                           | (50)<br>1 (2%)<br>1 (2%)<br>(6)<br>1 (17%)              |  |
| NERVOUS SYSTEM  |  |  |   |   |  |
| Brain<br>Gliosis<br>Hemorrhage<br>Peripheral Nerve<br>Atrophy   | (50)<br>1 (2%)<br>(1)<br>1 (100%)              | (50)<br>1 (2%)<br>1 (2%)<br>(2)<br>1 (50%)             | (50)<br>(2)<br>1 (50%)                          | (50)<br>1 (2%)<br>(5)<br>2 (40%)                        |  |
| RESPIRATORY SYSTEM  |  |  |   |   |  |
| Lung<br>Edema<br>Foreign Body<br>Hemorrhage<br>Hyperplasia, Lymphoid<br>Infiltration Cellular, Histiocyte | (50)<br>1 (2%)<br>1 (2%)<br>1 (2%)<br>10 (20%) | (50)<br>1 (2%)<br>3 (6%)<br>2 (4%)<br>14 (28%)         | (50)<br>1 (2%)<br>5 (10%)                       | (50)<br>1 (2%)<br>1 (2%)<br>2 (4%)<br>1 (2%)<br>7 (14%) |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE MALE  | 0 MG/L           | 250 MG/L         | 500 MG/L           | 1000 MG/L |  |
|---|------------------|------------------|--------------------|-----------|--|
| Inflammation, Suppurative   | 1 (2%)           |                  |                    | 2 (4%)    |  |
| Thrombosis  | ()               |                  |                    | 2 (4%)    |  |
| Alveolar Epithelium, Hyperplasia  | 3 (6%)           | 6 (12%)          | 4 (8%)             | 3 (6%)    |  |
| Nose  | (50)             | (50)             | (50)               | (50)      |  |
| Foreign Body  | 1 (2%)           |                  |                    | 1 (2%)    |  |
| Inflammation, Chronic   | 2 (4%)           |                  |                    | 1 (2%)    |  |
| SPECIAL SENSES SYSTEM   |                  |                  |                    |           |  |
| Eye   | (50)             | (50)             | (50)               | (50)      |  |
| Atrophy   | ,                | ,                | 1 (2%)             | ,         |  |
| Hemorrhage  |                  | 1 (2%)           | ,                  |           |  |
| Inflammation, Chronic   |                  | 1 (2%)           | 1 (2%)             |           |  |
| Cornea, Hyperplasia   |                  | 1 (2%)           | 1 (2%)             |           |  |
| Harderian Gland   | (50)             | (50)             | (49)               | (50)      |  |
| Hyperplasia, Focal  | 4 (8%)           | 1 (2%)           | 2 (4%)             | 2 (4%)    |  |
| Inflammation, Chronic   |                  |                  | 1 (2%)             |           |  |
| Acinus, Atrophy   | 1 (2%)           |                  |                    |           |  |
| URINARY SYSTEM  |                  |                  |                    |           |  |
| Kidney  | (50)             | (50)             | (50)               | (50)      |  |
| Cyst  | 10 (20%)         | 10 (20%)         | 16 (32%)           | 2 (4%)    |  |
| Glomerulosclerosis  |                  |                  | 1 (2%)             | 1 (2%)    |  |
| Hydronephrosis  | 1 (2%)           | 1 (2%)           |                    | 2 (4%)    |  |
| Hyperplasia, Lymphoid   | 1 (2%)           |                  | 1 (2%)             |           |  |
| Infarct   | 11 (22%)         | 2 (4%)           | 6 (12%)            | 5 (10%)   |  |
| Inflammation, Suppurative   | 0 (00()          | 1 (2%)           | 0 (00()            | 1 (2%)    |  |
| Inflammation, Chronic   | 3 (6%)           | 3 (6%)           | 3 (6%)             | 2 (4%)    |  |
| Metaplasia, Osseous   | 6 (12%)          | 6 (12%)          | 3 (6%)             | 1 (2%)    |  |
| Nephropathy<br>Renal Tubule, Accumulation, Hyaline Droplet                    | 40 (80%)         | 39 (78%)         | 31 (62%)<br>2 (4%) | 29 (58%)  |  |
| Renal Tubule, Accumulation, Hyaline Droplet Renal Tubule, Dilatation, Diffuse | 2 (4%)           | 1 (2%)<br>1 (2%) | 2 (4%)<br>1 (2%)   | 2 (4%)    |  |
| Renal Tubule, Hyperplasia   | 2 (4%)<br>1 (2%) | 1 (2%)           | 1 (2/0)            | Z (4/0)   |  |
| Renal Tubule, Necrosis  | 1 (2%)           | 2 (4%)           | 1 (2%)             | 3 (6%)    |  |
| Renal Tubule, Pigmentation  | 1 (2%)           | 4 (8%)           | 21 (42%)           | 24 (48%)  |  |
| Urethra   | (1)              | (0)              | (0)                | (0)       |  |
| Angiectasis   | 1 (100%)         | (0)              | (0)                | (0)       |  |
| Inflammation, Acute   | 1 (100%)         |                  |                    |           |  |
| Urinary Bladder   | (50)             | (50)             | (49)               | (50)      |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

TDMS No. 96019 - 06
Test Type: CHRONIC
Route: DOSED WATER

Species/Strain: MICE/B6C3F1

# P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

Date Report Reqsted: 08/21/2006 Time Report Reqsted: 10:19:09 First Dose M/F: 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE MALE   | 0 MG/L | 250 MG/L         | 500 MG/L                   | 1000 MG/L |  |
|--|--------|------------------|----------------------------|-----------|--|
| Edema<br>Inflammation, Chronic<br>Transitional Epithelium, Hyperplasia |        | 2 (4%)<br>1 (2%) | 2 (4%)<br>1 (2%)<br>1 (2%) | 1 (2%)    |  |

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

Date Report Reqsted: 08/21/2006 Time Report Reqsted: 10:19:09 First Dose M/F: 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE FEMALE                               | 0 MG/L   | 250 MG/L | 500 MG/L | 1000 MG/L |  |
|--|----------|----------|----------|-----------|--|
| Disposition Summary                              |          |          |          |           |  |
| Animals Initially in Study                       | 66       | 66       | 66       | 66        |  |
| Early Deaths                                     |          |          |          | 0         |  |
| Moribund Sacrifice                               | 4<br>10  | 3        | 3<br>15  | 2         |  |
| Natural Death<br>Survivors                       | 10       | 5        | 15       | 8         |  |
| Natural Death                                    |          |          |          | 1         |  |
| Terminal Sacrifice                               | 36       | 42       | 32       | 39        |  |
| Animals Examined Microscopically                 | 50       | 50       | 50       | 50        |  |
|  |          |          |          |           |  |
| ALIMENTARY SYSTEM                                |          |          |          |           |  |
| Gallbladder                                      | (42)     | (49)     | (41)     | (41)      |  |
| Intestine Large, Cecum                           | (48)     | (50)     | (46)     | (47)      |  |
| Edema  |          | 1 (2%)   | , ,      | 1 (2%)    |  |
| Ulcer  |          | 1 (2%)   |          |           |  |
| Intestine Large, Colon                           | (50)     | (50)     | (50)     | (49)      |  |
| Diverticulum                                     |          | 1 (2%)   |          |           |  |
| Intestine Small, Duodenum                        | (48)     | (45)     | (45)     | (46)      |  |
| Epithelium, Hyperplasia                          | (        | 1 (2%)   | (        | 1 (2%)    |  |
| Intestine Small, Ileum                           | (47)     | (50)     | (47)     | (46)      |  |
| Epithelium, Hyperplasia                          | (40)     | 2 (4%)   | (40)     | (4.4)     |  |
| Intestine Small, Jejunum                         | (48)     | (48)     | (46)     | (44)      |  |
| Hyperplasia, Lymphoid<br>Epithelium, Hyperplasia | 1 (2%)   | 1 (2%)   | 1 (2%)   | 1 (2%)    |  |
| Peyer's Patch, Inflammation, Suppurative         |          | 1 (2%)   | 1 (2%)   | 1 (2%)    |  |
| Liver  | (50)     | (50)     | (50)     | (50)      |  |
| Angiectasis                                      | 1 (2%)   | (50)     | 2 (4%)   | (50)      |  |
| Autolysis  | . (= /0) |          | _ (170)  | 1 (2%)    |  |
| Basophilic Focus                                 | 1 (2%)   | 3 (6%)   | 6 (12%)  | 5 (10%)   |  |
| Clear Cell Focus                                 | 4 (8%)   | 4 (8%)   | 2 (4%)   | - ( )     |  |
| Eosinophilic Focus                               | 13 (26%) | 22 (44%) | 31 (62%) | 24 (48%)  |  |
| Hematopoietic Cell Proliferation                 | 3 (6%)   | 1 (2%)   | 2 (4%)   | 2 (4%)    |  |
| Hemorrhage                                       | 2 (4%)   |          | 1 (2%)   |           |  |
| Infiltration Cellular, Mixed Cell                | 4 (8%)   | 4 (8%)   | 5 (10%)  |           |  |
| Mixed Cell Focus                                 | 5 (10%)  | 10 (20%) | 6 (12%)  | 1 (2%)    |  |
| Necrosis, Focal                                  | 3 (6%)   | 2 (4%)   | 2 (4%)   | 2 (4%)    |  |
| Tension Lipidosis                                |          | 1 (2%)   |          | 1 (2%)    |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE FEMALE                    | 0 MG/L      | 250 MG/L | 500 MG/L         | 1000 MG/L |  |
|---------------------------------------|-------------|----------|------------------|-----------|--|
| Bile Duct, Cyst Multilocular          |             | 1 (2%)   |                  | 1 (2%)    |  |
| Centrilobular, Necrosis               |             | ,        |                  | 2 (4%)    |  |
| Hepatocyte, Fatty Change              |             | 1 (2%)   | 1 (2%)           | ·         |  |
| Hepatocyte, Fatty Change, Focal       | 1 (2%)      |          |                  |           |  |
| Hepatocyte, Hyperplasia, Nodular      | 1 (2%)      |          |                  |           |  |
| Hepatocyte, Vacuolization Cytoplasmic | 3 (6%)      | 11 (22%) | 27 (54%)         | 42 (84%)  |  |
| Kupffer Cell, Hyperplasia             | 1 (2%)      |          |                  | ·         |  |
| Mesentery                             | (14)        | (16)     | (15)             | (7)       |  |
| Inflammation, Suppurative             | ,           | , ,      | 1 (7%)           | . ,       |  |
| Proliferation Connective Tissue       |             |          | 1 (7%)           |           |  |
| Fat, Necrosis                         | 8 (57%)     | 15 (94%) | 9 (60%)          | 5 (71%)   |  |
| Pancreas                              | (49)        | (50)     | (49)             | (49)      |  |
| Atrophy                               | ,           | 1 (2%)   | ,                | ,         |  |
| Cyst                                  | 1 (2%)      | 1 (2%)   |                  |           |  |
| Acinus, Cytoplasmic Alteration        | 3 (6%)      | 4 (8%)   | 2 (4%)           | 3 (6%)    |  |
| Salivary Glands                       | (50)        | (50)     | (48)             | (48)      |  |
| Atrophy                               | ()          | ()       | ( - /            | 1 (2%)    |  |
| Hyperplasia, Lymphoid                 | 17 (34%)    | 19 (38%) | 12 (25%)         | 12 (25%)  |  |
| Stomach, Forestomach                  | (50)        | (50)     | (50)             | (50)      |  |
| Diverticulum                          | 1 (2%)      | ()       | ()               | 1 (2%)    |  |
| Edema                                 | (=/-)       | 1 (2%)   |                  | . (=,,,   |  |
| Erosion                               | 1 (2%)      | . (= /3) |                  |           |  |
| Inflammation, Chronic                 | 2 (4%)      |          | 1 (2%)           |           |  |
| Ulcer                                 | = ( . , . , | 2 (4%)   | 1 (2%)           |           |  |
| Epithelium, Hyperplasia, Squamous     | 3 (6%)      | 2 (4%)   | 1 (2%)           | 3 (6%)    |  |
| Stomach, Glandular                    | (50)        | (50)     | (50)             | (50)      |  |
| Erosion                               | 2 (4%)      | (00)     | 1 (2%)           | 2 (4%)    |  |
| Ulcer                                 | _ (170)     |          | . (=76)          | 2 (4%)    |  |
| ARDIOVASCULAR SYSTEM                  |             |          |                  |           |  |
| Heart                                 | (50)        | (50)     | (50)             | (50)      |  |
| Cardiomyopathy                        | (30)        | 1 (2%)   | 2 (4%)           | (30)      |  |
| Inflammation, Chronic                 |             | 1 (270)  | 2 (4%)<br>1 (2%) |           |  |
| Mineralization                        |             | 2 (40/)  | 1 (2%)<br>2 (4%) |           |  |
| Thrombosis                            | 1 (2%)      | 2 (4%)   | 2 (4%)<br>1 (2%) | 1 (2%)    |  |
| פופטעוווטוווו                         | I (Z%)      | 1 (2%)   | I (Z70)          | I (∠70)   |  |
| NDOCRINE SYSTEM                       |             |          |                  |           |  |
| Adrenal Cortex                        | (50)        | (50)     | (49)             | (50)      |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE FEMALE                          | 0 MG/L         | 250 MG/L | 500 MG/L | 1000 MG/L |  |
|---|----------------|----------|----------|-----------|--|
| Accessory Adrenal Cortical Nodule           | 10 (20%)       | 8 (16%)  | 6 (12%)  | 10 (20%)  |  |
| Hyperplasia, Focal                          | 2 (4%)         |          |          |           |  |
| Hyperplasia, Diffuse                        |                |          | 1 (2%)   |           |  |
| Capsule, Hyperplasia                        |                | . (554)  |          | 2 (4%)    |  |
| Zona Reticularis, Vacuolization Cytoplasmic | 4              | 1 (2%)   |          | 2 (4%)    |  |
| Adrenal Medulla                             | (50)           | (50)     | (49)     | (48)      |  |
| Hyperplasia                                 |                | 1 (2%)   |          | 1 (2%)    |  |
| Islets, Pancreatic                          | (49)           | (50)     | (48)     | (49)      |  |
| Hyperplasia                                 | 3 (6%)         | 3 (6%)   |          |           |  |
| Parathyroid Gland                           | (36)           | (47)     | (44)     | (47)      |  |
| Cyst  | 1 (3%)         | 3 (6%)   |          | 4 (9%)    |  |
| Pituitary Gland                             | (48)           | (49)     | (48)     | (49)      |  |
| Pars Distalis, Angiectasis                  | 2 (4%)         |          |          |           |  |
| Pars Distalis, Cyst                         | 1 (2%)         | 1 (2%)   | 2 (4%)   | 3 (6%)    |  |
| Pars Distalis, Hyperplasia, Focal           | 10 (21%)       | 7 (14%)  | 4 (8%)   | 6 (12%)   |  |
| Pars Intermedia, Hyperplasia                |                |          |          | 1 (2%)    |  |
| Thyroid Gland                               | (50)           | (50)     | (49)     | (49)      |  |
| Inflammation, Granulomatous                 |                | 2 (4%)   |          |           |  |
| C-cell, Hyperplasia                         |                |          |          | 1 (2%)    |  |
| Follicle, Cyst                              | 1 (2%)         | 4 (8%)   | 4 (8%)   | 3 (6%)    |  |
| Follicle, Degeneration, Focal               | 19 (38%)       | 22 (44%) | 20 (41%) | 13 (27%)  |  |
| Follicular Cell, Hyperplasia                | 15 (30%)       | 18 (36%) | 11 (22%) | 9 (18%)   |  |
| ENERAL BODY SYSTEM                          |                |          |          |           |  |
| Tissue NOS                                  | (1)            | (0)      | (2)      | (0)       |  |
| ENITAL SYSTEM                               |                |          |          |           |  |
| Clitoral Gland<br>Cyst                      | (43)<br>1 (2%) | (50)     | (49)     | (46)      |  |
| Ovary                                       | (47)           | (50)     | (44)     | (48)      |  |
| Amyloid Deposition                          | 1 (2%)         | , ,      |          | , ,       |  |
| Angiectasis                                 | 6 (13%)        | 6 (12%)  | 4 (9%)   | 6 (13%)   |  |
| Cyst  | 20 (43%)       | 15 (30%) | 12 (27%) | 10 (21%)  |  |
| Hyperplasia, Tubular                        |                | 1 (2%)   |          | • •       |  |
| Thrombosis                                  |                |          | 1 (2%)   |           |  |
| Corpus Luteum, Hyperplasia                  |                |          |          | 3 (6%)    |  |
| Thecal Cell, Hyperplasia                    | 1 (2%)         | 1 (2%)   |          | • •       |  |
| Thecai Cell, Hyperplasia                    | (50)           | (50)     | (50)     | (50)      |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE FEMALE                                     | 0 MG/L          | 250 MG/L  | 500 MG/L | 1000 MG/L |  |
|--|-----------------|-----------|----------|-----------|--|
| Angiectasis  | 1 (2%)          | 2 (4%)    | 3 (6%)   | 2 (4%)    |  |
| Hemorrhage   | 00 (700()       | 40 (000() | 44 (000) | 1 (2%)    |  |
| Endometrium, Hyperplasia, Cystic                       | 39 (78%)        | 46 (92%)  | 44 (88%) | 44 (88%)  |  |
| Vagina   | (1)             | (1)       | (0)      | (0)       |  |
| HEMATOPOIETIC SYSTEM                                   |                 |           |          |           |  |
| Bone Marrow  | (50)            | (50)      | (50)     | (50)      |  |
| Depletion Cellular                                     |                 | 1 (2%)    |          |           |  |
| Hyperplasia  | 14 (28%)        | 10 (20%)  | 22 (44%) | 14 (28%)  |  |
| Myelofibrosis  |                 | 1 (2%)    |          | 4-1       |  |
| Lymph Node   | (11)            | (11)      | (4)      | (5)       |  |
| Iliac, Ectasia   | 2 (18%)         |           |          | 4 (000()  |  |
| Iliac, Hematopoietic Cell Proliferation                | 4 (00()         | 4 (00()   |          | 1 (20%)   |  |
| Iliac, Hyperplasia, Lymphoid                           | 1 (9%)          | 1 (9%)    |          |           |  |
| Inguinal, Hyperplasia, Lymphoid                        | 1 (9%)          | 0 (400/)  | 4 (050/) |           |  |
| Mediastinal, Hyperplasia, Lymphoid                     | 2 (400/)        | 2 (18%)   | 1 (25%)  |           |  |
| Renal, Hyperplasia, Lymphoid<br>Lymph Node, Mandibular | 2 (18%)<br>(49) | (49)      | (46)     | (42)      |  |
| Atrophy  | 1 (2%)          | 1 (2%)    | 2 (4%)   | (42)      |  |
| Hematopoietic Cell Proliferation                       | 1 (2/0)         | 1 (270)   | 1 (2%)   |           |  |
| Hemorrhage   | 1 (2%)          | 1 (2%)    | 1 (270)  |           |  |
| Hyperplasia, Lymphoid                                  | 2 (4%)          | 6 (12%)   | 4 (9%)   | 7 (17%)   |  |
| Pigmentation   | 7 (14%)         | 9 (18%)   | 3 (7%)   | 6 (14%)   |  |
| Lymph Node, Mesenteric                                 | (50)            | (48)      | (47)     | (47)      |  |
| Atrophy  | 2 (4%)          | 2 (4%)    | 2 (4%)   | (47)      |  |
| Ectasia  | 1 (2%)          | 1 (2%)    | 2 (170)  |           |  |
| Hematopoietic Cell Proliferation                       | 2 (4%)          | 2 (4%)    |          |           |  |
| Hemorrhage   | 4 (8%)          | = ( . , , |          |           |  |
| Hyperplasia, Lymphoid                                  | 4 (8%)          | 5 (10%)   | 1 (2%)   | 2 (4%)    |  |
| Spleen   | (49)            | (50)      | (50)     | (50)      |  |
| Angiectasis  | ,               | ,         | 1 (2%)   | ,         |  |
| Hematopoietic Cell Proliferation                       | 33 (67%)        | 40 (80%)  | 39 (78%) | 27 (54%)  |  |
| Pigmentation   | , ,             | 4 (8%)    | 3 (6%)   | 2 (4%)    |  |
| Lymphoid Follicle, Atrophy                             | 1 (2%)          | 1 (2%)    | 3 (6%)   | 1 (2%)    |  |
| Lymphoid Follicle, Hyperplasia                         | 8 (16%)         | 13 (26%)  | 8 (16%)  | 9 (18%)   |  |
| Thymus   | (49)            | (47)      | (49)     | (48)      |  |
| Atrophy  | 2 (4%)          | 5 (11%)   | 11 (22%) | 5 (10%)   |  |
| Cyst   | 2 /             | _ ,       | 2 (4%)   | 1 (2%)    |  |
| Hyperplasia, Lymphoid                                  | 6 (12%)         | 7 (15%)   | 2 (4%)   | 5 (10%)   |  |

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

**Date Report Reqsted:** 08/21/2006 **Time Report Reqsted:** 10:19:09 **First Dose M/F:** 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE FEMALE  | 0 MG/L                   | 250 MG/L                  | 500 MG/L                                    | 1000 MG/L                         |  |
|---|--------------------------|---------------------------|---|-----------------------------------|--|
|   |                          |                           |   |                                   |  |
| INTEGUMENTARY SYSTEM  |                          |                           |   |                                   |  |
| Mammary Gland Hyperplasia Skin Cyst Epithelial Inclusion Edema    | (50)<br>4 (8%)<br>(50)   | (50)<br>2 (4%)<br>(50)    | (50)<br>8 (16%)<br>(50)<br>1 (2%)<br>1 (2%) | (50)<br>6 (12%)<br>(50)<br>1 (2%) |  |
| MUSCULOSKELETAL SYSTEM  |                          |                           |   |                                   |  |
| Bone<br>Fibrosis<br>Cranium, Osteopetrosis                        | (50)<br>1 (2%)<br>1 (2%) | (50)<br>6 (12%)<br>1 (2%) | (50)<br>4 (8%)                              | (50)<br>4 (8%)                    |  |
| Skeletal Muscle   | (2)                      | (2)                       | (4)   | (2)                               |  |
| NERVOUS SYSTEM  |                          |                           |   |                                   |  |
| Brain<br>Compression<br>Hemorrhage                                | (50)<br>2 (4%)<br>1 (2%) | (50)                      | (50)<br>2 (4%)                              | (50)<br>1 (2%)                    |  |
| Peripheral Nerve<br>Atrophy                                       | (1)                      | (2)<br>2 (100%)           | (1)<br>1 (100%)                             | (1)<br>1 (100%)                   |  |
| RESPIRATORY SYSTEM  |                          |                           |   |                                   |  |
| Lung<br>Foreign Body  | (50)                     | (50)                      | (50)  | (50)<br>2 (4%)                    |  |
| Hemorrhage<br>Hyperplasia, Lymphoid                               | 2 (4%)<br>1 (2%)         | 5 (10%)<br>3 (6%)         | 5 (10%)                                     | 6 (12%)                           |  |
| Infiltration Cellular, Histiocyte<br>Metaplasia, Osseous          | 5 (10%)<br>1 (2%)        | 2 (4%)                    | 4 (8%)                                      | 6 (12%)                           |  |
| Alveolar Epithelium, Hyperplasia<br>Nose<br>Inflammation, Chronic | 2 (4%)<br>(50)<br>1 (2%) | 4 (8%)<br>(49)            | 1 (2%)<br>(50)                              | 1 (2%)<br>(50)<br>1 (2%)          |  |

SPECIAL SENSES SYSTEM

**TDMS No.** 96019 - 06

Test Type: CHRONIC

Route: DOSED WATER

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

WATER DISINFECTION BYPRODUCTS (BROMOCHLOROACETIC ACID)

**CAS Number:** 5589-96-8

Pathologist: HEATH, J. - Unknown, U.

Date Report Reqsted: 08/21/2006 Time Report Reqsted: 10:19:09 First Dose M/F: 10/10/01 / 10/10/01

Lab: SRI

| B6C3F1 MICE FEMALE                          | 0 MG/L  | 250 MG/L | 500 MG/L | 1000 MG/L  |  |
|---|---------|----------|----------|------------|--|
| Eye   | (50)    | (50)     | (50)     | (48)       |  |
| Atrophy                                     | 1 (2%)  | 1 (2%)   | (50)     | 2 (4%)     |  |
| Cataract                                    | . (=70) | 1 (2%)   |          | 1 (2%)     |  |
| Inflammation, Chronic                       |         | 1 (2%)   |          | . (= / - / |  |
| Harderian Gland                             | (49)    | (50)     | (50)     | (47)       |  |
| Hyperplasia, Focal                          | ,       | 5 (10%)  | 4 (8%)   | 1 (2%)     |  |
| Inflammation, Chronic                       | 1 (2%)  | , ,      | , ,      | , ,        |  |
| JRINARY SYSTEM                              |         |          |          |            |  |
| Kidney                                      | (50)    | (50)     | (50)     | (50)       |  |
| Casts Granular                              | 2 (4%)  | 1 (2%)   |          | 1 (2%)     |  |
| Hydronephrosis                              |         |          | 1 (2%)   |            |  |
| Infarct                                     | 8 (16%) | 4 (8%)   | 2 (4%)   | 3 (6%)     |  |
| Inflammation, Suppurative                   |         |          | 1 (2%)   |            |  |
| Inflammation, Chronic                       | 4 (8%)  |          | 3 (6%)   | 3 (6%)     |  |
| Metaplasia, Osseous                         | 1 (2%)  | 2 (4%)   | 3 (6%)   | 2 (4%)     |  |
| Nephropathy                                 | 5 (10%) | 5 (10%)  | 8 (16%)  | 6 (12%)    |  |
| Renal Tubule, Accumulation, Hyaline Droplet | 1 (2%)  |          |          | 1 (2%)     |  |
| Renal Tubule, Necrosis                      | 1 (2%)  |          | 1 (2%)   |            |  |
| Renal Tubule, Pigmentation                  |         |          | 1 (2%)   | 1 (2%)     |  |
| Urinary Bladder                             | (50)    | (50)     | (50)     | (50)       |  |
| Edema                                       |         |          | 1 (2%)   | - 4        |  |
| Inflammation, Chronic                       | 7 (14%) | 4 (8%)   | 3 (6%)   | 6 (12%)    |  |
| Transitional Epithelium, Hyperplasia        |         |          | 1 (2%)   |            |  |

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

**TDMS No.** 96019 - 06

Test Type: CHRONIC Route: DOSED WATER

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