

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Sodium Tungstate Dihydrate

**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019

**Time Report Requested:** 10:11:56

**First Dose M/F:** 01/17/12 / 01/16/12

**Lab:** BAT

Final Version 2

**NTP Study Number:** C03038  
**Lock Date:** 05/25/2016  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 3.0.2.3\_002  
**PWG Approval Date:** NONE

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 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 1

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400450

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| Testis                    | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |               |                              |                         |
|---|---------------|------------------------------|-------------------------|
| * Adrenal Cortex  |               | Hyperplasia                  | Minimal                 |
|   |               | Hypertrophy                  | Minimal                 |
| Blood Vessel  |               |                              |                         |
| Note: Blood vessel was used to document the presence or absence of "aorta". Aorta, a protocol-required tissue, is not listed separately in TDMSE. |               |                              |                         |
| * Esophagus   |               | Inflammation                 | Chronic Active, Mild    |
| Note: Inflammation in intra-thoracic esophagus on slide 4.  |               |                              |                         |
| * Islets, Pancreatic  |               | Hyperplasia                  | Minimal                 |
| * Kidney  | Renal Tubule  | Cyst                         |                         |
|   |               | Mineral                      | Minimal                 |
|   |               | Nephropathy                  | Chronicprogr, Minimal   |
| * Liver   |               | Clear Cell Focus             |                         |
| * Lymph Node, Mesenteric  |               | Extramedullary Hematopoiesis | Minimal                 |
| * Nose  | Olfactory Epi | Metaplasia                   | Respiratory, Minimal    |
| Note: Metaplasia, minimal, olfactory epithelium is used to code a focal metaplasia from olfactory to respiratory epithelium.                      |               |                              |                         |
| * Preputial Gland   |               | Inflammation                 | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

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**Lab:** BAT

---

**ANIMAL ID:** 1

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400450

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Tooth

Dental Dysplasia

Minimal

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Experiment Number: 03038 - 04  
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 Lab: BAT

ANIMAL ID: 2

TRT#: 1

SEX: Male

DAY ON TEST: 713

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400451

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Trachea                  | * Urinary Bladder         |

MISSING

|               |                          |                 |
|---------------|--------------------------|-----------------|
| * Gallbladder | * Lymph Node, Mandibular | * Mammary Gland |
|---------------|--------------------------|-----------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|               |        |                       |                         |
|---------------|--------|-----------------------|-------------------------|
| * Bone Marrow |        | Hemangiosarcoma       |                         |
| * Epididymis  |        | Infiltration Cellular | Mononuclear CI, Mild    |
|               |        | Inflammation          | Chronic Active, Minimal |
| * Kidney      | Pelvis | Inflammation          | Chronic Active, Mild    |
|               |        | Mineral               | Minimal                 |
|               |        | Nephropathy           | Chronicprogr, Mild      |

Note: Hemorrhage also noted in renal pelvis.

|         |            |                              |         |
|---------|------------|------------------------------|---------|
| * Liver |            | Extramedullary Hematopoiesis | Minimal |
|         |            | Hemangiosarcoma              |         |
|         |            | Hepatocellular Adenoma       |         |
|         | Hepatocyte | Necrosis                     | Minimal |

Note: Multifocal hepatic necrosis, related to tumor, not diagnosed separately.

[ Hemangiosarcoma TGLs = 1,2-12 ]

[ Hepatocellular Adenoma TGLs = 4-11 ]

\* Lym Node Mesen

Note: Small pancreatic node used as mesenteric. Mesentery has significant granulomatous inflammation.

|            |  |         |          |
|------------|--|---------|----------|
| Lymph Node |  | Atrophy | Moderate |
|------------|--|---------|----------|

\* PROTOCOL REQUIRED TISSUE

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First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 2

TRT#: 1

SEX: Male

DAY ON TEST: 713

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400451

ORGAN AND ACCOUNTABLE SITE STATUS

Note: Mediastinal nodes atrophied.

Mesentery

Inflammation

Chronic Active, Marked

Note: Pyogranulomatous inflammation surrounding many organs and within mesentery itself (slide 6).

\* Preputial Gland

Cyst

\* Prostate

Inflammation

Chronic Active, Minimal

\* Seminal Vesicle

Inflammation

Chronic Active, Minimal

\* Spleen

Extramedullary Hematopoiesis

Minimal

Hemangiosarcoma

[ Hemangiosarcoma TGLs = 3-11 ]

Testis

Germinal Epith

Degeneration

Minimal

\* Thymus

Atrophy

Marked

\* Thyroid Gland

Follicle

Degeneration

Minimal

PRIMARY CAUSE OF DEATH

- Spleen Hemangiosarcoma

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Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 3

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400452

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |                        |                       |
|---|------------------------|-----------------------|
| * Adrenal Cortex  | Hyperplasia            | Minimal               |
| * Harderian Gland   | Carcinoma              |                       |
| [ Carcinoma TGLs = 4-8 ]  |                        |                       |
| * Islets, Pancreatic  | Hyperplasia            | Minimal               |
| * Kidney  | Mineral                | Minimal               |
|   | Nephropathy            | Chronicprogr, Minimal |
| Note: Focus of bone noted.  |                        |                       |
| * Liver   | Clear Cell Focus       |                       |
|   | Hepatocellular Adenoma | Multiple              |
| [ Hepatocellular Adenoma TGLs = 2,3-12+13 ]                         |                        |                       |
| * Lym Node Mand   |                        |                       |
| Note: Large numbers of histiocytes and mast cells populate sinuses. |                        |                       |
| Mesentery   | Fat                    | Necrosis              |
| [ Necrosis TGLs = 1-11 ]  |                        | Moderate              |
| * Nose  | Olfactory Epi          | Metaplasia            |
|   |                        | Respiratory, Minimal  |

\* PROTOCOL REQUIRED TISSUE

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**Lab:** BAT

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**ANIMAL ID:** 3

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400452

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland  
Tooth

Follicle

Degeneration  
Dental Dysplasia

Minimal  
Marked

---

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First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 4

TRT#: 1

SEX: Male

DAY ON TEST: 694

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400453

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                          |                           |                             |
|----------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla          | Blood Vessel             | * Bone                    | * Brain                     |
| * Esophagus                | * Eye                    | * Gallbladder             | * Harderian Gland           |
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Jejunum | * Nose                   | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland          | * Preputial Gland        | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                     | * Stomach, Forestomach   | * Stomach, Glandular      | Testis                      |
| * Thyroid Gland            | * Trachea                | * Urinary Bladder         |                             |

MISSING

\* Mammary Gland

AUTO PRECLUDES DIAG.

\* Islets, Pancreatic

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |            |                              |      |
|--|------------|------------------------------|------|
| * Adrenal Cortex   |            | Lymphoma Malignant           |      |
| Note: Only one adrenal on slide; "enlarged adrenal" per IANR is malignant lymphoma infiltrated mesentery, and coded under mesentery. |            |                              |      |
| * Bone Marrow  |            | Lymphoma Malignant           |      |
| * Epididymis   |            | Lymphoma Malignant           |      |
| * Heart  |            | Cardiomyopathy               | Mild |
| * Intestine Small, Ileum   |            | Lymphoma Malignant           |      |
| [ Lymphoma Malignant TGLs = 1-11 ]   |            |                              |      |
| * Kidney   |            | Lymphoma Malignant           |      |
| * Liver  |            | Lymphoma Malignant           |      |
|  | Hepatocyte | Necrosis                     | Mild |
| * Lung   |            | Alveolar/Bronchiolar Adenoma |      |
| Note: Animal is leukemic.  |            |                              |      |
| Lymph Node   |            | Lymphoma Malignant           |      |
| Note: TGL 4-13: Lumbar Lymph Node.   |            |                              |      |
| [ Lymphoma Malignant TGLs = 4-13 ]   |            |                              |      |

\* PROTOCOL REQUIRED TISSUE



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First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 4

TRT#: 1

SEX: Male

DAY ON TEST: 694

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400453

ORGAN AND ACCOUNTABLE SITE STATUS

|  |                    |
|--|--------------------|
| * Lymph Node, Mandibular   | Lymphoma Malignant |
| * Lymph Node, Mesenteric<br>[ Lymphoma Malignant TGLs = 2-12 ]   | Lymphoma Malignant |
| Mesentery<br>Note: TGL 3-7: Mass on slide is mesentery with lymphoma cell infiltration; mass is not adrenal as noted on IANR.<br>[ Lymphoma Malignant TGLs = 3-7 ] | Lymphoma Malignant |
| * Prostate   | Lymphoma Malignant |
| * Spleen   | Lymphoma Malignant |
| * Thymus   | Lymphoma Malignant |
| Tooth  | Dental Dysplasia   |

Minimal

PRIMARY CAUSE OF DEATH - Intestine Small, Ileum Lymphoma Malignant

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 Lab: BAT

ANIMAL ID: 5

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400454

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Pancreas                 | * Pituitary Gland         | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |   |                        |                       |
|--|---|------------------------|-----------------------|
| * Islets, Pancreatic   |   | Adenoma                |                       |
| * Kidney   | Renal Tubule  | Cyst                   |                       |
|  |   | Nephropathy            | Chronicprogr, Minimal |
|  |   | Pigment                | Minimal               |
| * Liver  |   | Clear Cell Focus       |                       |
|  |   | Eosinophilic Focus     |                       |
|  |   | Hepatocellular Adenoma | Multiple              |
|  |   | Mixed Cell Focus       |                       |
| Note: TGL 2 cut with no normal liver adjacent; multiple adenomas on the four slides (11-14). Many clear foci noted as well on multiple slides. |   |                        |                       |
|  | [ Hepatocellular Adenoma TGLs = 1,2,3,4-11+12+13+14 ] |                        |                       |
| * Nose   | Olfactory Epi   | Metaplasia             | Respiratory, Mild     |
| Tooth  |   | Dental Dysplasia       | Marked                |

\* PROTOCOL REQUIRED TISSUE

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 Lab: BAT

ANIMAL ID: 6

TRT#: 1

SEX: Male

DAY ON TEST: 613

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400455

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| Blood Vessel              | * Bone                      | * Bone Marrow            | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Salivary Glands          |
| * Skin                    | * Stomach, Glandular        | Testis                   | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

|                   |                 |
|-------------------|-----------------|
| * Adrenal Medulla | * Mammary Gland |
|-------------------|-----------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |            |                    |                          |
|---|------------|--------------------|--------------------------|
| * Adrenal Cortex  |            | Hypertrophy        | Minimal                  |
| * Eye   |            |                    |                          |
| Note: No optic nerves present for review.                               |            |                    |                          |
| * Islets, Pancreatic  |            | Hyperplasia        | Minimal                  |
| * Kidney  | Pelvis     | Inflammation       | Suppurative, Marked      |
| * Liver   |            | Eosinophilic Focus |                          |
| Note: Noticable increase in syncytial hepatocytes (5-9 nuclei) present. |            |                    |                          |
| * Lymph Node, Mesenteric  |            | Inflammation       | Suppurative, Marked      |
| [ Inflammation TGLs = 1-11 ]  |            |                    |                          |
| * Prostate  |            | Inflammation       | Chronic Active, Moderate |
| * Seminal Vesicle   |            | Inflammation       | Chronic Active, Minimal  |
| * Spleen  | White Pulp | Atrophy            | Moderate                 |
| * Stomach, Forestomach  |            | Ulcer              | Minimal                  |
| * Thymus  |            | Atrophy            | Marked                   |

PRIMARY CAUSE OF DEATH - Kidney Pelvis Inflammation

Animal Note: Bacterial colonies in many organs/vascular spaces.

\* PROTOCOL REQUIRED TISSUE

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 Lab: BAT

ANIMAL ID: 7

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400456

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Nose                   |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                        |                        |
|--|------------------------|------------------------|
| * Adrenal Cortex   | Hypertrophy            | Minimal                |
| * Int Sm Ileum   |                        |                        |
| Note: Exuberant lymphoid tissue noted.   |                        |                        |
| * Islets, Pancreatic   | Hyperplasia            | Marked                 |
| * Kidney   | Nephropathy            | Chronicprogr, Minimal  |
| Note: Collecting duct clogged with necrotic, mineralized debris (focal only).  |                        |                        |
| * Liver  | Clear Cell Focus       |                        |
|  | Eosinophilic Focus     |                        |
|  | Hepatocellular Adenoma | Multiple               |
| Note: Hepatocellular adenoma on slide 6 is presumed to be same mass, cut at edge, as mass on slide 13. Although TGL-2 reads "foci", the essential lesion is adenoma. |                        |                        |
| [ Hepatocellular Adenoma TGLs = 1,2,3-12+13+14 ]   |                        |                        |
| * Lymph Node, Mesenteric   | Hyperplasia            | Lymphocyte, Moderate   |
| * Preputial Gland  | Cyst                   |                        |
|  | Inflammation           | Chronic Active, Marked |
| Tooth  | Dental Dysplasia       | Marked                 |

\* PROTOCOL REQUIRED TISSUE

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 Lab: BAT

ANIMAL ID: 8

TRT#: 1

SEX: Male

DAY ON TEST: 668

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400457

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Trachea                 | * Urinary Bladder           |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |  |                              |                       |
|----------------------|--|------------------------------|-----------------------|
| * Islets, Pancreatic |  | Hyperplasia                  | Moderate              |
| * Kidney             |  | Nephropathy                  | Chronicprogr, Minimal |
|                      |  | Pigment                      | Minimal               |
| * Liver              |  | Hepatoblastoma               |                       |
|                      | Hepatocyte                               | Hepatocellular Carcinoma     |                       |
|                      | [ Hepatoblastoma TGLs = 2-12 ]           | Necrosis                     | Moderate              |
|                      | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                              |                       |
|                      | [ Necrosis TGLs = 3-13 ]                 |                              |                       |
| * Lung               |  | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| * Nose               | Olfactory Epi                            | Metaplasia                   | Respiratory, Minimal  |
| * Spleen             |  | Extramedullary Hematopoiesis | Mild                  |
| Testis               | Germinal Epith                           | Degeneration                 | Minimal               |
| * Thyroid Gland      | Follicle                                 | Cyst                         |                       |
| Tooth                |  | Dental Dysplasia             | Mild                  |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 9

TRT#: 1

SEX: Male

DAY ON TEST: 689

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400458

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                      |   |                          |                       |
|----------------------|---|--------------------------|-----------------------|
| * Adrenal Cortex     | Subcapsular   | Hyperplasia              | Moderate              |
| * Heart              |   | Cardiomyopathy           | Minimal               |
| * Islets, Pancreatic |   | Hyperplasia              | Moderate              |
| * Kidney             |   | Mineral                  | Minimal               |
|                      |   | Nephropathy              | Chronicprogr, Minimal |
|                      |   | Pigment                  | Minimal               |
| * Liver              |   | Eosinophilic Focus       |                       |
|                      |   | Hepatocellular Adenoma   | Multiple              |
|                      |   | Hepatocellular Carcinoma |                       |
|                      | [ Hepatocellular Adenoma TGLs = 1-12; 2-11 ]  |                          |                       |
| * Lung               |   | Histiocytic Sarcoma      |                       |
|                      | Note: Lung mass is autolyzed and certainty of cell of origin is obscured.                                       |                          |                       |
|                      | Note: Collections of histiocytic cells with lymphocytes within and on surface of lung lobe is coded Histiosarc. |                          |                       |
| * Preputial Gland    |   | Inflammation             | Suppurative, Marked   |
| * Thymus             |   | Atrophy                  | Moderate              |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 632

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400459

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

|                 |                   |
|-----------------|-------------------|
| * Mammary Gland | * Pituitary Gland |
|-----------------|-------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |   |                    |                       |
|--------------------------|---|--------------------|-----------------------|
| * Adrenal Cortex         |   | Hypertrophy        | Minimal               |
| * Kidney                 |   | Glomerulosclerosis | Moderate              |
|                          |   | Nephropathy        | Chronicprogr, Marked  |
|                          |   | Pigment            | Minimal               |
|                          | [ Nephropathy TGLs = 3-5 ]  |                    |                       |
| * Liver                  | Hepatocyte  | Necrosis           | Minimal               |
| * Lymph Node, Mesenteric |   | Atrophy            | Marked                |
| * Preputial Gland        |   | Cyst               |                       |
|                          |   | Inflammation       | Suppurative, Moderate |
| * Skin                   | Subcut Tiss   | Edema              | Marked                |
|                          | Note: Significant cellular (histiocytic) response present with edema. |                    |                       |
|                          | [ Edema TGLs = 1-9+11 ]   |                    |                       |
| * Spleen                 | Red Pulp  | Atrophy            | Mild                  |
| Testis                   | Germinal Epith  | Degeneration       | Minimal               |
| * Thymus                 |   | Atrophy            | Marked                |

PRIMARY CAUSE OF DEATH - Kidney Nephropathy

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 10

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 632

**DOSE:** 0 mg/L

**DISP:** Moribund Sacrifice

**HISTO:** 1400459

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Animal Note: There is a general cellular infiltrate of the mesentery, and surrounding abdominal, thoracic, and thoracic inlet/neck organs which corresponds to TGL 2 fluid.

---



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 11

TRT#: 1

SEX: Male

DAY ON TEST: 704

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400460

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | Testis                      | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |  |                          |                       |
|---|--|--------------------------|-----------------------|
| * Bone Marrow   |  | Atrophy                  | Mild                  |
| * Islets Panc   |  |                          |                       |
| Note: Several islets noted in association with ductal cyst on slide 11.   |  |                          |                       |
| * Kidney  |  | Nephropathy              | Chronicprogr, Minimal |
| * Liver   |  | Hepatocellular Carcinoma |                       |
|   | [ Hepatocellular Carcinoma TGLs = 2-12 ] |                          |                       |
| * Lung  |  |                          |                       |
| Note: Many white and immature red precursors and an occasional megakaryocyte noted in lung vessels. Consistent with contracted, atrophied spleen and death. |  |                          |                       |
| * Lymph Node, Mandibular  |  | Atrophy                  | Moderate              |
| * Lymph Node, Mesenteric  |  | Atrophy                  | Moderate              |
| * Nose  | Olfactory Epi                            | Metaplasia               | Respiratory, Minimal  |
| * Pancreas  | Duct                                     | Cyst                     |                       |
|   | [ Cyst TGLs = 1-11 ]                     |                          |                       |
| * Spleen  | White Pulp                               | Atrophy                  | Moderate              |
|   | Red Pulp                                 | Atrophy                  | Marked                |
| * Stomach, Glandular  |  | Ulcer                    | Minimal               |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 11

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 704

**DOSE:** 0 mg/L

**DISP:** Natural Death

**HISTO:** 1400460

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Moderate

---

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

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Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 12

TRT#: 1

SEX: Male

DAY ON TEST: 596

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400461

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Bone Marrow             | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Liver                     | * Lymph Node, Mandibular | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |            |                                |                       |
|--|------------|--------------------------------|-----------------------|
| * Brain  |            | Hemorrhage                     | Moderate              |
| * Heart  |            | Hemorrhage                     | Moderate              |
|  | Atrium     | Thrombus                       |                       |
| * Kidney   |            | Nephropathy                    | Chronicprogr, Minimal |
| * Lung   |            | Alveolar/Bronchiolar Carcinoma | Multiple              |
|  |            | Thrombus                       |                       |
| Note: A/B carcinoma coded multiple; many sites in all lobes, including some plural reaction.<br>[ Alveolar/Bronchiolar Carcinoma TGLs = 1-11 ] |            |                                |                       |
| * Lymph Node, Mesenteric   |            | Atrophy                        | Mild                  |
| * Nose   |            | Inflammation                   | Suppurative, Minimal  |
| * Spleen   | White Pulp | Atrophy                        | Moderate              |
| * Thymus   |            | Atrophy                        | Minimal               |

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

Animal Note: Multiple areas of peracute hemorrhage noted; while most have no inflammatory reaction and appear agonal, they are coded due to unusual distribution/frequency.

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 13

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400462

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Stomach, Glandular      | Testis                      | * Trachea                | * Urinary Bladder          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |   |                              |                      |
|--------------------------|---|------------------------------|----------------------|
| * Adrenal Cortex         | Bilateral, Subcapsular  | Adenoma                      | Multiple             |
|                          |   | Hypertrophy                  | Minimal              |
| * Bone Marrow            |   | Hypercellularity             | Mild                 |
|                          |   | Mast Cell Tumor Malignant    |                      |
| * Islets, Pancreatic     |   | Hyperplasia                  | Mild                 |
| * Kidney                 |   | Infiltration Cellular        | Mononuclear CI, Mild |
|                          |   | Nephropathy                  | Chronicprogr, Mild   |
|                          |   | Pigment                      | Minimal              |
|                          | Renal Tubule  | Regeneration                 | Minimal              |
| * Liver                  |   | Angiectasis                  | Mild                 |
|                          |   | Extramedullary Hematopoiesis | Minimal              |
|                          |   | Hepatocellular Adenoma       | Multiple             |
|                          | Note: Some pigment also noted but not coded separately.<br>[ Hepatocellular Adenoma TGLs = 3-11; 4-12; 5,6,7-13 ] |                              |                      |
| * Lymph Node, Mandibular |   | Infiltration Cellular        | Neutrophil, Mild     |
|                          |   | Mast Cell Tumor Malignant    |                      |
| * Lymph Node, Mesenteric |   | Infiltration Cellular        | Neutrophil, Mild     |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 13

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400462

**ORGAN AND ACCOUNTABLE SITE STATUS**

|   |                |  |                        |
|---|----------------|--|------------------------|
| * Nose  | Respirat Epith | Mast Cell Tumor Malignant<br>Hyperplasia | Mild                   |
| * Preputial Gland   |                | Inflammation                             | Chronic Active, Marked |
| Note: Massive fibrinonecrotic/granulosuppurative response; fungus present; marked mast cell infiltrate all present.               |                |  |                        |
| [ Inflammation TGLs = 1-11 ]  |                |  |                        |
| * Spleen  |                | Extramedullary Hematopoiesis             | Mild                   |
| [ Extramedullary Hematopoiesis TGLs = 2-12 ]  |                |  |                        |
| * Stomach, Forestomach  | Epithelium     | Hyperplasia                              | Moderate               |
|   |                | Mast Cell Tumor Malignant                |                        |
|   |                | Ulcer                                    | Minimal                |
| Note: Mostly mast-cell population in and around areas of inflammation may be primary here but dx is not in the preloaded lexicon. |                |  |                        |
| * Thymus  |                | Atrophy                                  | Moderate               |
| * Thyroid Gland   | Follicle       | Degeneration                             | Minimal                |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 14

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400463

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

|                 |                     |          |
|-----------------|---------------------|----------|
| * Mammary Gland | * Parathyroid Gland | * Thymus |
|-----------------|---------------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |   |                    |
|--|---|--------------------|
| * Adrenal Cortex   | Hypertrophy                                 | Minimal            |
| * Kidney   | Nephropathy                                 | Chronicprogr, Mild |
|  | Pigment                                     | Minimal            |
| * Liver  | Clear Cell Focus                            |                    |
|  | Eosinophilic Focus                          |                    |
|  | Hepatocellular Adenoma                      | Multiple           |
|  | Hepatocellular Carcinoma                    |                    |
|  | Mixed Cell Focus                            |                    |
| Note: Adenoma also on slide 6 (median lobe) which may be extension of that seen on slide 13. Multiple foci noted on multiple slides. |   |                    |
|  | [ Hepatocellular Adenoma TGLs = 2,3-12+13 ] |                    |
|  | [ Hepatocellular Carcinoma TGLs = 1-11 ]    |                    |
| * Lung   | Alveolar/Bronchiolar Adenoma                |                    |
| Tooth  | Dental Dysplasia                            | Moderate           |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 613

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400464

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Brain                    |
| * Eye                     | * Gallbladder               | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Parathyroid Gland         | * Pituitary Gland        | * Skin                     |
| Testis                    | * Trachea                   |                          |                            |

**MISSING**

|              |                          |                 |
|--------------|--------------------------|-----------------|
| Blood Vessel | * Lymph Node, Mandibular | * Mammary Gland |
|--------------|--------------------------|-----------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |                                    |                              |                       |
|--------------------------|------------------------------------|------------------------------|-----------------------|
| * Bone Marrow            |                                    | Lymphoma Malignant           |                       |
| * Epididymis             |                                    | Lymphoma Malignant           |                       |
| * Esophagus              |                                    | Lymphoma Malignant           |                       |
| * Harderian Gland        |                                    | Lymphoma Malignant           |                       |
| * Heart                  |                                    | Lymphoma Malignant           |                       |
| * Kidney                 |                                    | Lymphoma Malignant           |                       |
|                          |                                    | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                  |                                    | Eosinophilic Focus           |                       |
|                          |                                    | Lymphoma Malignant           |                       |
|                          |                                    | Mixed Cell Focus             |                       |
|                          | [ Eosinophilic Focus TGLs = 1-11 ] |                              |                       |
| * Lung                   |                                    | Alveolar/Bronchiolar Adenoma |                       |
|                          |                                    | Lymphoma Malignant           |                       |
| * Lymph Node, Mesenteric |                                    | Lymphoma Malignant           |                       |
| Mesentery                |                                    | Lymphoma Malignant           |                       |
| * Nose                   | Respirat Epith                     | Hyperplasia                  | Minimal               |
| * Pancreas               |                                    | Lymphoma Malignant           |                       |
| * Preputial Gland        |                                    | Lymphoma Malignant           |                       |
| * Prostate               |                                    | Lymphoma Malignant           |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 613

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400464

ORGAN AND ACCOUNTABLE SITE STATUS

|                        |                                    |                              |         |
|------------------------|------------------------------------|------------------------------|---------|
| * Salivary Glands      |                                    | Lymphoma Malignant           |         |
| * Seminal Vesicle      |                                    | Lymphoma Malignant           |         |
| * Spleen               |                                    | Extramedullary Hematopoiesis | Minimal |
| * Stomach, Forestomach |                                    | Lymphoma Malignant           |         |
| * Stomach, Glandular   |                                    | Lymphoma Malignant           |         |
| * Thymus               |                                    | Lymphoma Malignant           |         |
|                        | [ Lymphoma Malignant TGLs = 2-12 ] |                              |         |
| * Thyroid Gland        | Follicle                           | Degeneration                 | Minimal |
| Tooth                  |                                    | Dental Dysplasia             | Marked  |
| * Urinary Bladder      |                                    | Lymphoma Malignant           |         |

PRIMARY CAUSE OF DEATH - Thymus Lymphoma Malignant



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400465

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| Testis                     | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                  |  |                          |                       |
|------------------|--|--------------------------|-----------------------|
| * Adrenal Cortex |  | Hypertrophy              | Minimal               |
| * Kidney         |  | Mineral                  | Minimal               |
|                  |  | Nephropathy              | Chronicprogr, Minimal |
|                  |  | Pigment                  | Minimal               |
| * Liver          | Bile Duct                                | Cyst                     |                       |
|                  |  | Eosinophilic Focus       |                       |
|                  |  | Hepatocellular Carcinoma |                       |
|                  | [ Cyst TGLs = 2-4 ]                      |                          |                       |
|                  | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                          |                       |
| * Nose           | Olfactory Epi                            | Metaplasia               | Respiratory, Minimal  |
| Tooth            |  | Dental Dysplasia         | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400466

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                        |                       |
|--|------------------------|-----------------------|
| * Adrenal Cortex                       | Hypertrophy            | Minimal               |
| * Islets, Pancreatic                   | Hyperplasia            | Mild                  |
| * Kidney                               | Nephropathy            | Chronicprogr, Minimal |
| * Liver                                | Clear Cell Focus       |                       |
|  | Eosinophilic Focus     |                       |
|  | Hepatocellular Adenoma |                       |
| [ Eosinophilic Focus TGLs = 2-13 ]     |                        |                       |
| [ Hepatocellular Adenoma TGLs = 1-12 ] |                        |                       |
| * Preputial Gland                      | Cyst                   |                       |
| Tooth                                  | Dental Dysplasia       | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 18

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400467

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|  |  |                        |                         |
|--|--|------------------------|-------------------------|
| * Adrenal Cortex   |  | Hypertrophy            | Minimal                 |
| * Intestine Large, Cecum   |  | Pigment                | Minimal                 |
| * Islets, Pancreatic   |  | Hyperplasia            | Mild                    |
| * Kidney   |  | Nephropathy            | Chronicprogr, Minimal   |
| * Liver  |  | Clear Cell Focus       |                         |
|  |  | Eosinophilic Focus     |                         |
|  |  | Hepatocellular Adenoma |                         |
|  |  | Mixed Cell Focus       |                         |
|  | Hepatocyte                             | Necrosis               | Mild                    |
| Note: Eosinophilic focus on slide 4 may be cut edge of adenoma from median lobe section on slide 14. Other foci on various slides. |  |                        |                         |
|  | [ Hepatocellular Adenoma TGLs = 2-14 ] |                        |                         |
|  | [ Necrosis TGLs = 1-13 ]               |                        |                         |
| * Nose   | Olfactory Epi                          | Metaplasia             | Respiratory, Minimal    |
| * Seminal Vesicle  |  | Inflammation           | Chronic Active, Minimal |
| Testis   | Germinal Epith                         | Pigment                | Minimal                 |
| * Thyroid Gland  | Follicle                               | Degeneration           | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 18

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400467

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 19

TRT#: 1

SEX: Male

DAY ON TEST: 694

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400468

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Seminal Vesicle         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    |
| * Thyroid Gland             | * Trachea                |                            |                           |

MISSING

\* Mammary Gland

AUTO PRECLUDES DIAG.

\* Islets, Pancreatic

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                              |
|--|------------------------------|
| * Adrenal Cortex   | Lymphoma Malignant           |
| Blood Vessel   |                              |
| Note: Aorta present on slide 4 with heart.   |                              |
| * Bone Marrow  | Lymphoma Malignant           |
| * Harderian Gland  | Lymphoma Malignant           |
| * Kidney   | Lymphoma Malignant           |
| * Liver  | Lymphoma Malignant           |
| [ Lymphoma Malignant TGLs = 3-11+12 ]  |                              |
| * Lung   | Alveolar/Bronchiolar Adenoma |
| [ Alveolar/Bronchiolar Adenoma TGLs = 2-13 ]   | Lymphoma Malignant           |
| Lymph Node   | Lymphoma Malignant           |
| Note: Lumbar node (lymphoma) is TGL 5-13; lymphoma also present in mediastinal node (not coded grossly). |                              |
| [ Lymphoma Malignant TGLs = 5-13 ]   |                              |
| * Lymph Node, Mandibular   | Lymphoma Malignant           |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 19

TRT#: 1

SEX: Male

DAY ON TEST: 694

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400468

ORGAN AND ACCOUNTABLE SITE STATUS

[ Lymphoma Malignant TGLs = 4-7 ]

|                          |                    |
|--------------------------|--------------------|
| * Lymph Node, Mesenteric | Lymphoma Malignant |
| * Preputial Gland        | Lymphoma Malignant |
| * Prostate               | Lymphoma Malignant |
| * Salivary Glands        | Lymphoma Malignant |
| * Skin                   |                    |

Note: Skin normal, but subcutaneous tissues have collections/masses of lymphoma cells.

|                   |                    |
|-------------------|--------------------|
| * Spleen          | Lymphoma Malignant |
| * Thymus          | Lymphoma Malignant |
| Tooth             | Dental Dysplasia   |
| * Urinary Bladder | Lymphoma Malignant |

Minimal

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

Animal Note: Lymphoma diagnosed; however animal is leukemic, all organs affected.

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 680

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400469

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Preputial Gland        | * Salivary Glands          |
| * Seminal Vesicle         | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Trachea                 |                             |                          |                            |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |   |                        |                          |
|---|---|------------------------|--------------------------|
| * Bone  |   | Hemangiosarcoma        |                          |
| * Bone Marrow   |   | Hemangiosarcoma        |                          |
| * Islets, Pancreatic  |   | Hyperplasia            | Minimal                  |
| * Kidney  | Renal Tubule                                | Cyst                   |                          |
|   |   | Hemangiosarcoma        |                          |
|   |   | Nephropathy            | Chronicprogr, Minimal    |
|   |   | Pigment                | Minimal                  |
| Note: Hemangiosarc is really "mesentery" and is so coded; but is also listed in Kidney because it is firmly attached to the left Kidney capsule and pelvis. |   |                        |                          |
| * Liver   |   | Eosinophilic Focus     |                          |
|   | Hepatocyte                                  | Hepatocellular Adenoma | Multiple                 |
|   | [ Hepatocellular Adenoma TGLs = 1,2-11+12 ] | Necrosis               | Minimal                  |
| Mesentery   |   | Hemangiosarcoma        |                          |
|   | [ Hemangiosarcoma TGLs = 4-14 ]             |                        |                          |
| * Pituitary Gland   | Pars Distalis                               | Hyperplasia            | Minimal                  |
| * Prostate  |   | Inflammation           | Chronic Active, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 680

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400469

ORGAN AND ACCOUNTABLE SITE STATUS

|                        |  |                  |                         |
|------------------------|--|------------------|-------------------------|
| Skeletal Muscle        |  | Hemangiosarcoma  |                         |
| * Skin                 |  | Ulcer            | Marked                  |
|                        | [ Ulcer TGLs = 3-13 ]  |                  |                         |
| * Spleen               |  | Hemangiosarcoma  |                         |
| * Stomach, Forestomach | Epithelium   | Hyperplasia      | Moderate                |
|                        | Note: Minimal mixed cell inflammation also present in some areas of hyperplasia. |                  |                         |
| * Thyroid Gland        | Follicle   | Degeneration     | Minimal                 |
| Tooth                  |  | Dental Dysplasia | Minimal                 |
| * Urinary Bladder      |  | Inflammation     | Chronic Active, Minimal |

PRIMARY CAUSE OF DEATH - Mesentery Hemangiosarcoma

CONTRIBUTORY CAUSE OF DEATH - Skin Ulcer



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400470

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                                 |                        |                       |
|---------------------------------|------------------------|-----------------------|
| * Adrenal Cortex                | Hypertrophy            | Minimal               |
| * Epididymis                    | Granuloma Sperm        | Moderate              |
| [ Granuloma Sperm TGLs = 1-11 ] |                        |                       |
| * Islets, Pancreatic            | Hyperplasia            | Minimal               |
| * Kidney                        | Nephropathy            | Chronicprogr, Minimal |
|                                 | Pigment                | Minimal               |
| * Liver                         | Cholangiocarcinoma     |                       |
|                                 | Clear Cell Focus       |                       |
|                                 | Eosinophilic Focus     |                       |
|                                 | Hepatocellular Adenoma |                       |
|                                 | Mixed Cell Focus       |                       |

Note: Raised area (grossly) seen microscopically to be composed of eosinophilic hepatocytes, normal architecture, with syncytial hepatocytes.

[ Cholangiocarcinoma TGLs = 4-12 ]

[ Eosinophilic Focus TGLs = 3-12 ]

[ Hepatocellular Adenoma TGLs = 2-11 ]

\* Lung Alveolar/Bronchiolar Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400470

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ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Alveolar/Bronchiolar Adenoma TGLs = 6-13 ]

\* Lymph Node, Mesenteric

Lymphoma Malignant

Note: Malignant lymphoma diagnosed rather than hyperplasia due to infiltration of adjacent fat and around nerves.

[ Lymphoma Malignant TGLs = 5-6 ]

\* Nose

Olfactory Epi

Metaplasia

Respiratory, Minimal

\* Spleen

Lymphoma Malignant

Tooth

Dental Dysplasia

Minimal

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 22

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400471

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Parathyroid Gland         | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

**MISSING**

|                 |                   |
|-----------------|-------------------|
| * Mammary Gland | * Pituitary Gland |
|-----------------|-------------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                   |  |                        |                       |
|-------------------|--|------------------------|-----------------------|
| * Bone            |  | Increased Bone         | Minimal               |
| * Kidney          |  | Infarct                | Minimal               |
|                   |  | Nephropathy            | Chronicprogr, Minimal |
|                   |  | Pigment                | Minimal               |
| * Liver           |  | Clear Cell Focus       |                       |
|                   |  | Hepatocellular Adenoma |                       |
|                   |  | Mixed Cell Focus       |                       |
|                   | [ Clear Cell Focus TGLs = 1-6+12; 4-13 ] |                        |                       |
|                   | [ Hepatocellular Adenoma TGLs = 2-11 ]   |                        |                       |
| * Pancreas        | Acinus                                   | Atrophy                | Marked                |
| * Preputial Gland |  | Inflammation           | Suppurative, Marked   |
|                   | [ Inflammation TGLs = 3-11 ]             |                        |                       |
| * Spleen          | White Pulp                               | Hyperplasia            | Mild                  |
| Tooth             |  | Dental Dysplasia       | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 23

TRT#: 1

SEX: Male

DAY ON TEST: 703

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400472

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Pancreas                  |
| * Parathyroid Gland      | * Preputial Gland          | * Prostate                | * Salivary Glands           |
| * Seminal Vesicle        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

**MISSING**

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |                       |                          |
|---|-----------------------|--------------------------|
| * Bone  | Schwannoma Malignant  | Metastatic (Spinal Cord) |
| * Bone Marrow   | Schwannoma Malignant  | Metastatic (Spinal Cord) |
| * Brain   | Schwannoma Malignant  | Metastatic (Spinal Cord) |
| Note: Tumor is also on slide 02, in olfactory region of the brain (in addition to TGL slide 11).  |                       |                          |
| Note: Tumor has variable appearance of uncertain origin; large spinal cord or nerve sheath tumor also present in this animal. Coded malignant schwannoma. |                       |                          |
| [ Schwannoma Malignant TGLs = 1-11 ]  |                       |                          |
| * Epididymis  | Granuloma Sperm       | Mild                     |
| * Eye   |                       |                          |
| Note: Insufficient optic nerve present for review.  |                       |                          |
| * Islets, Pancreatic  | Hyperplasia           | Minimal                  |
| * Kidney  | Mineral               | Minimal                  |
|   | Nephropathy           | Chronicprogr, Minimal    |
| * Liver   | Eosinophilic Focus    |                          |
| * Lymph Node, Mandibular  | Hyperplasia           | Plasma Cell, Minimal     |
|   | Infiltration Cellular | Mixed Cell, Minimal      |
| * Lymph Node, Mesenteric  | Infiltration Cellular | Histiocyte, Minimal      |
| * Nose  | Polyp, Inflammatory   | Mild                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 23

TRT#: 1

SEX: Male

DAY ON TEST: 703

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400472

ORGAN AND ACCOUNTABLE SITE STATUS

|   |                |                      |                          |
|---|----------------|----------------------|--------------------------|
| * Pituitary Gland   |                | Schwannoma Malignant | Metastatic (Spinal Cord) |
| Spinal Cord   |                | Schwannoma Malignant | Metastatic (Spinal Cord) |
|   |                | Schwannoma Malignant |                          |
| Note: Apparent nerve sheath tumor of spinal cord of spinal nerves which appears to have spread cranially to olfactory area. |                |                      |                          |
| [ Schwannoma Malignant TGLs = 2-12 ]  |                |                      |                          |
| Testis  | Germinal Epith | Degeneration         | Mild                     |
| Note: Several mineralized tubules noted.  |                |                      |                          |
| Tooth   |                | Dental Dysplasia     | Mild                     |

PRIMARY CAUSE OF DEATH - Spinal Cord Schwannoma Malignant

CONTRIBUTORY CAUSE OF DEATH - Brain Schwannoma Malignant Spinal Cord

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 24

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400473

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Brain                    | * Epididymis              |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |                      |                       |
|----------------------|----------------------|-----------------------|
| * Adrenal Cortex     | Hypertrophy          | Minimal               |
| * Bone               | Fibro-Osseous Lesion | Minimal               |
| * Bone Marrow        | Hypercellularity     | Minimal               |
| * Islets, Pancreatic | Hyperplasia          | Minimal               |
| * Kidney             | Nephropathy          | Chronicprogr, Minimal |
|                      | Pigment              | Minimal               |
| * Liver              | Clear Cell Focus     |                       |
|                      | Eosinophilic Focus   |                       |
|                      | Fatty Change         | Diffuse, Minimal      |
|                      | Mineral              | Mild                  |
|                      | Mixed Cell Focus     |                       |

Note: More foci on slide 4,5 and 6; most common focus is fatty focus.

Note: Slide 15, TGL-4: "Pancreatic nodule" is trapped hepatic tissue in mesentery, containing area of mineralized necrosis, with adjacent inflammation & liver tissue.

[ Clear Cell Focus TGLs = 1,2,3-12+13+14 ]

[ Fatty Change TGLs = 1,2,3-12+13+14 ]

[ Mineral TGLs = 4-15 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 24

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400473

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|                          |      |                              |                         |
|--------------------------|------|------------------------------|-------------------------|
| * Lymph Node, Mesenteric |      | Angiectasis                  | Minimal                 |
|                          |      | Extramedullary Hematopoiesis | Minimal                 |
| * Preputial Gland        |      | Cyst                         |                         |
|                          |      | Inflammation                 | Chronic Active, Minimal |
| * Salivary Glands        | Duct | Hyperplasia                  | Minimal                 |
| Tooth                    |      | Dental Dysplasia             | Minimal                 |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 25

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400474

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |               |   |                       |
|---|---------------|---|-----------------------|
| * Adrenal Cortex  |               | Hypertrophy                                 | Minimal               |
| * Bone Marrow   |               | Hypercellularity                            | Minimal               |
| * Islets, Pancreatic  |               | Hyperplasia                                 | Mild                  |
| * Kidney  |               | Infarct                                     | Mild                  |
|   |               | Nephropathy                                 | Chronicprogr, Minimal |
|   |               | Pigment                                     | Minimal               |
| * Liver   |               | Clear Cell Focus                            |                       |
|   |               | Eosinophilic Focus                          |                       |
|   |               | Hepatocellular Adenoma                      | Multiple              |
| Note: Potential additional adenoma on slide 4; additional foci (clear, eosinophilic) on various slides. |               |   |                       |
|   |               | [ Clear Cell Focus TGLs = 3,5,6-14+16+17 ]  |                       |
|   |               | [ Eosinophilic Focus TGLs = 4-15 ]          |                       |
|   |               | [ Hepatocellular Adenoma TGLs = 1,2-12+13 ] |                       |
| * Nose  | Olfactory Epi | Metaplasia                                  | Respiratory, Minimal  |
| * Preputial Gland   |               | Inflammation                                | Suppurative, Marked   |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 25

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400474

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland  
Tooth

Follicle

Degeneration  
Dental Dysplasia

Minimal  
Minimal

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 26

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400475

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                        |                       |
|--------------------------|--|------------------------|-----------------------|
| * Epididymis             |  | Granuloma Sperm        | Mild                  |
| * Islets, Pancreatic     |  | Hyperplasia            | Marked                |
| * Kidney                 |  | Metaplasia             | Osseous, Minimal      |
|                          |  | Nephropathy            | Chronicprogr, Minimal |
|                          |  | Pigment                | Minimal               |
|                          | Renal Tubule                                 | Regeneration           | Minimal               |
|                          | Note: Focus of heterotopic bone present.     |                        |                       |
| * Liver                  |  | Eosinophilic Focus     |                       |
|                          |  | Hepatocellular Adenoma | Multiple              |
|                          | [ Hepatocellular Adenoma TGLs = 2, 3-12+13 ] |                        |                       |
| * Lung                   | Alveolar Epith                               | Hyperplasia            | Minimal               |
| * Lymph Node, Mandibular |  | Hyperplasia            | Lymphocyte, Moderate  |
| * Nose                   | Respirat Epith                               | Hyperplasia            | Minimal               |
| * Preputial Gland        |  | Inflammation           | Suppurative, Mild     |
| * Spleen                 | White Pulp                                   | Hyperplasia            | Mild                  |
| Tooth                    |  | Dental Dysplasia       | Moderate              |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 27

TRT#: 1

SEX: Male

DAY ON TEST: 589

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400476

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Pancreas                 | * Pituitary Gland         | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Trachea                   | * Urinary Bladder        |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |   |                          |          |
|----------------------|---|--------------------------|----------|
| * Adrenal Cortex     |   | Hypertrophy              | Minimal  |
| * Islets, Pancreatic |   | Hyperplasia              | Moderate |
| * Kidney             |   | Mineral                  | Mild     |
| * Liver              |   | Eosinophilic Focus       |          |
|                      |   | Hepatocellular Adenoma   | Multiple |
|                      |   | Hepatocellular Carcinoma |          |
|                      | [ Hepatocellular Adenoma TGLs = 2-12; 4-14 ]  |                          |          |
|                      | [ Hepatocellular Carcinoma TGLs = 3-13 ]  |                          |          |
| * Nose               | Respirat Epith  | Hyperplasia              | Mild     |
| * Sem Ves            |   |                          |          |
|                      | Note: Seminal vesicles are dilated but not inconsistent with typical moribund mouse appearance. |                          |          |
| * Spleen             | Red Pulp  | Atrophy                  | Moderate |
|                      | White Pulp  | Atrophy                  | Moderate |
| * Thymus             |   | Atrophy                  | Marked   |
| * Thyroid Gland      | Follicle  | Degeneration             | Minimal  |
| Tooth                |   | Dental Dysplasia         | Moderate |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 27

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 589

**DOSE:** 0 mg/L

**DISP:** Natural Death

**HISTO:** 1400476

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 697

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400477

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| Testis                    | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |            |                        |                       |
|----------------------|------------|------------------------|-----------------------|
| * Adrenal Cortex     |            | Hypertrophy            | Minimal               |
| * Bone               | Joint      | Degeneration           | Marked                |
| * Islets, Pancreatic |            | Hyperplasia            | Minimal               |
| * Kidney             |            | Mineral                | Minimal               |
|                      |            | Nephropathy            | Chronicprogr, Minimal |
|                      |            | Pigment                | Minimal               |
| * Liver              |            | Eosinophilic Focus     |                       |
|                      | Hepatocyte | Fatty Change           | Focal, Mild           |
|                      |            | Hepatocellular Adenoma | Multiple              |
|                      | Hepatocyte | Necrosis               | Minimal               |

Note: Two foci/nodules called hepatocellular adenom due to concurrent areas of necrosis; foci do not.

Note: Several "fatty" foci noted and coded "fatty change, focal". Not coded multiple because other foci are not coded multiple in this or other mice.

Note: Large liver mass interpreted to be adenoma with massive congestion, probably due to torsion of the mass.

[ Eosinophilic Focus TGLs = 4-12 ]

[ Fatty Change TGLs = 3-11 ]

[ Hepatocellular Adenoma TGLs = 1-13; 2-11; 4-12 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 697

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400477

ORGAN AND ACCOUNTABLE SITE STATUS

\* Lung

Note: Vessels filled with immature rbc's and white cells and occasional megakaryocyte, consistent with agonal splenic contraction and cell release.

\* Lymph Node, Mesenteric

Extramedullary Hematopoiesis

Moderate

\* Nose

Olfactory Epi

Metaplasia

Respiratory, Minimal

\* Spleen

Red Pulp

Atrophy

Mild

White Pulp

Atrophy

Minimal

\* Thymus

Atrophy

Moderate

Tooth

Dental Dysplasia

Moderate

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Adenoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 29

TRT#: 1

SEX: Male

DAY ON TEST: 502

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400478

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Preputial Gland        | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      |
| * Thyroid Gland          | * Trachea                  | Ureter                    | * Urinary Bladder           |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                      |        |             |                        |
|----------------------|--------|-------------|------------------------|
| * Islets, Pancreatic |        | Hyperplasia | Moderate               |
| * Kidney             | Pelvis | Dilation    | Moderate               |
|                      |        | Mineral     | Minimal                |
|                      |        | Nephropathy | Chronicprogr, Moderate |

Note: Bilateral dilatation of renal pelvis. Although dilated ureters were also noted at necropsy, no such evidence found on kidney (or prostate section).

[ Dilation TGLs = 2-11 ]

- \* Liver

- Eosinophilic Focus
- Hepatoblastoma
- Hepatocellular Adenoma

[ Eosinophilic Focus TGLs = 4-14 ]

[ Hepatoblastoma TGLs = 3-13 ]

[ Hepatocellular Adenoma TGLs = 3-13 ]

- \* Lung

Note: Blood vessels filled with immature rbc's and white cells; consistent with splenic contraction near death.

- \* Nose

Olfactory Epi

Metaplasia

Respiratory, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 29

TRT#: 1

SEX: Male

DAY ON TEST: 502

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400478

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|          |            |                  |         |
|----------|------------|------------------|---------|
| * Spleen | Red Pulp   | Atrophy          | Mild    |
|          | White Pulp | Atrophy          | Minimal |
| * Thymus |            | Atrophy          | Marked  |
| Tooth    |            | Dental Dysplasia | Minimal |
| Ureter   |            |                  |         |

Note: Ureters appear normal - and not dilated - on histo slide; inconsistency with TGL suggests distal obstruction that caused ureter and renal pelvis dilation.

---

PRIMARY CAUSE OF DEATH - Kidney Pelvis Dilation

---



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 30

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400479

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |  |                       |
|----------------------|--|-----------------------|
| * Adrenal Cortex     | Hyperplasia                            | Minimal               |
| * Islets, Pancreatic | Hyperplasia                            | Minimal               |
| * Kidney             | Mineral                                | Minimal               |
|                      | Nephropathy                            | Chronicprogr, Minimal |
|                      | Pigment                                | Minimal               |
| * Liver              | Clear Cell Focus                       |                       |
|                      | Eosinophilic Focus                     |                       |
|                      | Hepatocellular Adenoma                 |                       |
|                      | [ Eosinophilic Focus TGLs = 2-13 ]     |                       |
|                      | [ Hepatocellular Adenoma TGLs = 2-13 ] |                       |
| * Spleen             | Hemangiosarcoma                        |                       |
|                      | Note: Hemangiosarc also on slide 5.    |                       |
|                      | [ Hemangiosarcoma TGLs = 1-12 ]        |                       |
| Tooth                | Dental Dysplasia                       | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 31

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400480

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                          |                           |                             |
|--------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel             | * Brain                   | * Epididymis                |
| * Esophagus              | * Eye                    | * Gallbladder             | * Harderian Gland           |
| * Heart                  | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Lung                   | * Lymph Node, Mandibular  | * Nose                      |
| * Pancreas               | * Parathyroid Gland      | * Pituitary Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle        | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | Testis                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        |                          |                           |                             |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |   |                       |                     |
|---|-----------------------|---------------------|
| * Adrenal Cortex  | Hypertrophy           | Minimal             |
| * Bone  | Fibro-Osseous Lesion  | Minimal             |
| * Bone Marrow   | Hypercellularity      | Minimal             |
| * Intestine Large, Cecum  | Pigment               | Minimal             |
| * Intestine Small, Jejunum  | Lymphoma Malignant    |                     |
| Note: Peyer's patch on slide 4-15 per TGL, but also on slide 6.<br>[ Lymphoma Malignant TGLs = 4-15 ] |                       |                     |
| * Islets, Pancreatic  | Hyperplasia           | Minimal             |
| * Kidney  | Nephropathy           | Chronicprogr, Mild  |
|   | Pigment               | Minimal             |
| * Liver   | Eosinophilic Focus    |                     |
|   | Hepatoblastoma        |                     |
|   | Infiltration Cellular | Mixed Cell, Minimal |
| [ Eosinophilic Focus TGLs = 1-12 ]<br>[ Hepatoblastoma TGLs = 2-13 ]                                  |                       |                     |
| * Lymph Node, Mesenteric  | Lymphoma Malignant    |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 31

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400480

ORGAN AND ACCOUNTABLE SITE STATUS

Note: Coded lymphoma based on morphology but may be massive "hyperplasia" as a reaction to hepatoblastoma which eroded through the capsule of the liver.

Note: Lymphoma also in Peyer's patch and spleen.

[ Lymphoma Malignant TGLs = 3-14 ]

Mesentery

Inflammation

Chronic Active, Mild

Note: Serosal inflammation related to liver tumor.

\* Pituitary Gland

Note: Minute cyst noted, too insignificant for diagnosis.

\* Preputial Gland

Cyst

\* Spleen

Lymphoma Malignant

\* Thymus

Atrophy

Marked

Tooth

Dental Dysplasia

Minimal

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 32

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400481

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |               |   |                       |
|--|---------------|---|-----------------------|
| * Islets, Pancreatic   |               | Hyperplasia                                 | Minimal               |
| * Kidney   | Renal Tubule  | Cyst  |                       |
|  |               | Nephropathy                                 | Chronicprogr, Minimal |
|  |               | Pigment                                     | Minimal               |
| * Liver  |               | Clear Cell Focus                            |                       |
|  |               | Hepatocellular Adenoma                      | Multiple              |
|  |               | Mixed Cell Focus                            |                       |
| Note: "Multiple" foci on slides 12 and 13, although less than 10 total identified. |               |   |                       |
|  |               | [ Clear Cell Focus TGLs = 1,2-12+13 ]       |                       |
|  |               | [ Hepatocellular Adenoma TGLs = 3,4-11+12 ] |                       |
| * Nose   | Olfactory Epi | Metaplasia                                  | Respiratory, Minimal  |
| * Pancreas   | Acinus        | Atrophy                                     | Minimal               |
| * Spleen   | White Pulp    | Hyperplasia                                 | Minimal               |
| * Thyroid Gland  | Follicle      | Degeneration                                | Minimal               |
| Tooth  |               | Dental Dysplasia                            | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 33

TRT#: 1

SEX: Male

DAY ON TEST: 564

DOSE: 0 mg/L

DISP: Accidentally Killed

HISTO: 1400482

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |            |                  |                       |
|--|------------|------------------|-----------------------|
| * Bone Marrow  |            | Angiectasis      | Moderate              |
| * Islets, Pancreatic   |            | Hyperplasia      | Minimal               |
| * Kidney   |            | Mineral          | Minimal               |
|  |            | Nephropathy      | Chronicprogr, Minimal |
|  |            | Pigment          | Minimal               |
| * Liver  | Hepatocyte | Fatty Change     | Focal, Minimal        |
| * Preputial Gland  |            | Cyst             |                       |
| * Stom Gland   |            |                  |                       |
| Note: Couple epithelial cells with mineral, and minor cyst of no significance noted. |            |                  |                       |
| Tooth  |            | Dental Dysplasia | Mild                  |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 34

TRT#: 1

SEX: Male

DAY ON TEST: 505

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400483

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Liver                   | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Pituitary Gland        | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |            |                  |          |
|---|------------|------------------|----------|
| * Adrenal Cortex  |            | Necrosis         | Minimal  |
| * Bone Marrow   |            | Hypercellularity | Mild     |
| * Islets, Pancreatic  |            | Hyperplasia      | Moderate |
| * Kidney  | Papilla    | Necrosis         | Marked   |
| Note: Although animal is autolyzed, bilateral papillary necrosis is apparent. |            |                  |          |
| Note: Cause of papillary necrosis not identified, suspect acute blockage.     |            |                  |          |
| * Spleen  | Red Pulp   | Atrophy          | Mild     |
|   | White Pulp | Atrophy          | Minimal  |
| Tooth   |            | Dental Dysplasia | Mild     |

PRIMARY CAUSE OF DEATH

- Kidney Papilla Necrosis

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 35

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400484

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Gallbladder               | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

**MISSING**

|                 |                   |
|-----------------|-------------------|
| * Mammary Gland | * Preputial Gland |
|-----------------|-------------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |  |                              |                        |
|--------------------------|--|------------------------------|------------------------|
| * Bone Marrow            |  | Hypercellularity             | Minimal                |
| * Harderian Gland        |  | Adenoma                      |                        |
| * Heart                  |  | Cardiomyopathy               | Minimal                |
| * Islets, Pancreatic     |  | Hyperplasia                  | Mild                   |
| * Kidney                 |  | Nephropathy                  | Chronicprogr, Moderate |
|                          |  | Pigment                      | Minimal                |
| * Liver                  |  | Hepatocellular Carcinoma     |                        |
|                          | Note: Hepato CA also on slide 4.         |                              |                        |
|                          | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                              |                        |
| * Lung                   |  | Hepatocellular Carcinoma     | Metastatic (Liver)     |
| * Lymph Node, Mesenteric |  | Angiectasis                  | Mild                   |
| * Nose                   | Olfactory Epi                            | Metaplasia                   | Respiratory, Minimal   |
| * Spleen                 |  | Extramedullary Hematopoiesis | Minimal                |
| Testis                   | Germinal Epith                           | Degeneration                 | Mild                   |
| * Thymus                 |  | Atrophy                      | Marked                 |
| Tooth                    |  | Dental Dysplasia             | Mild                   |
|                          |  | Inflammation                 | Chronic Active, Mild   |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 36

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400485

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |  |  |                          |                              |
|--|--|--------------------------|------------------------------|
| * Bone Marrow  |  | Hypercellularity         | Minimal                      |
| * Islets, Pancreatic   |  | Hyperplasia              | Moderate                     |
| * Kidney   |  | Mineral                  | Minimal                      |
|  |  | Nephropathy              | Chronicprogr, Minimal        |
| * Liver  |  | Eosinophilic Focus       |                              |
|  |  | Hepatocellular Adenoma   |                              |
|  |  | Hepatocellular Carcinoma |                              |
|  | [ Eosinophilic Focus TGLs = 3-13 ]       |                          |                              |
|  | [ Hepatocellular Adenoma TGLs = 2-12 ]   |                          |                              |
|  | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                          |                              |
| * Lung   |  | Pigment                  | Minimal                      |
| Note: Clusters of large pigmented macrophages noted in various alveoli, cause unclear. |  |                          |                              |
| * Nose   | Olfactory Epi                            | Metaplasia               | Respiratory, Minimal         |
| * Preputial Gland  |  | Cyst                     |                              |
| * Thymus   |  | Hyperplasia              | Atypical, Lymphocyte, Marked |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 36

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400485

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia  
Inflammation

Mild  
Chronic Active, Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400486

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                |                          |                    |
|--|----------------|--------------------------|--------------------|
| * Adrenal Cortex   |                | Hypertrophy              | Minimal            |
| * Epididymis   |                |                          |                    |
| Note: Degenerate cells (from degenerative testis of same side) noted, with fewer spermatozoa, in epididymis (also unilateral). |                |                          |                    |
| * Heart  |                | Cardiomyopathy           | Minimal            |
| * Islets, Pancreatic   |                | Hyperplasia              | Minimal            |
| * Kidney   |                | Mineral                  | Minimal            |
|  |                | Nephropathy              | Chronicprogr, Mild |
|  |                | Pigment                  | Minimal            |
| * Liver  |                | Hepatocellular Carcinoma |                    |
| [ Hepatocellular Carcinoma TGLs = 1-11 ]   |                |                          |                    |
| * Preputial Gland  |                | Cyst                     |                    |
| Testis   | Germinal Epith | Degeneration             | Moderate           |
| Note: Atrophy is unilateral.   |                |                          |                    |
| Tooth  |                | Dental Dysplasia         | Minimal            |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 38

TRT#: 1

SEX: Male

DAY ON TEST: 628

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400487

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                          |                           |                          |                            |
|--------------------------|---------------------------|--------------------------|----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | Blood Vessel             | * Bone Marrow              |
| * Brain                  | * Epididymis              | * Esophagus              | * Eye                      |
| * Gallbladder            | * Harderian Gland         | * Heart                  | * Intestine Large, Cecum   |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Kidney                 | * Lung                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                   | * Pancreas                | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland        | * Prostate                | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                   | * Stomach, Forestomach    | * Stomach, Glandular     | Testis                     |
| * Thyroid Gland          | * Trachea                 | * Urinary Bladder        |                            |

**MISSING**

|                             |                 |
|-----------------------------|-----------------|
| * Intestine Small, Duodenum | * Mammary Gland |
|-----------------------------|-----------------|

**AUTO PRECLUDES DIAG.**

|                      |          |
|----------------------|----------|
| * Islets, Pancreatic | * Spleen |
|----------------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |                  |                 |
|---|------------------|-----------------|
| * Bone  | Increased Bone   | Minimal         |
| * Liver   | Fatty Change     | Diffuse, Marked |
| * Lung  |                  |                 |
| Note: Vascular red/white cytolysis indicative of splenic contract near death. |                  |                 |
| * Thymus  | Atrophy          | Marked          |
| Tooth   | Dental Dysplasia | Minimal         |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400488

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Nose                      | * Pancreas               | * Parathyroid Gland        | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |  |                              |                              |
|--------------------------|--|------------------------------|------------------------------|
| * Adrenal Cortex         |  | Hyperplasia                  | Mild                         |
| * Bone Marrow            |  | Hypercellularity             | Minimal                      |
| * Heart                  |  | Cardiomyopathy               | Minimal                      |
| * Islets, Pancreatic     |  | Hyperplasia                  | Mild                         |
| * Kidney                 |  | Mineral                      | Minimal                      |
|                          |  | Nephropathy                  | Chronicprogr, Mild           |
|                          |  | Pigment                      | Minimal                      |
| * Liver                  |  | Hepatocellular Carcinoma     |                              |
|                          | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                              |                              |
| * Lung                   |  | Hepatocellular Carcinoma     | Metastatic (Liver)           |
| * Lymph Node, Mesenteric |  | Extramedullary Hematopoiesis | Minimal                      |
| * Pituitary Gland        | Pars Distalis                            | Hyperplasia                  | Minimal                      |
| * Preputial Gland        |  | Cyst                         |                              |
|                          |  | Inflammation                 | Chronic Active, Minimal      |
| * Spleen                 |  | Extramedullary Hematopoiesis | Minimal                      |
| Testis                   | Germinal Epith                           | Degeneration                 | Minimal                      |
| * Thymus                 |  | Hyperplasia                  | Atypical, Lymphocyte, Marked |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 39

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400488

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 40

TRT#: 1

SEX: Male

DAY ON TEST: 675

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400489

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Bone Marrow             | * Brain                     | * Epididymis             | * Esophagus                |
| * Eye                     | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**INSUFFICIENT TISSUE**

- \* Gallbladder

**OBSERVATIONS**

- |                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Heart                  |  | Cardiomyopathy               | Minimal               |
| * Kidney                 |  | Glomerulosclerosis           | Minimal               |
|                          |  | Nephropathy                  | Chronicprogr, Minimal |
|                          |  | Pigment                      | Minimal               |
| * Liver                  |  | Hepatocellular Adenoma       |                       |
|                          |  | Hepatocellular Carcinoma     |                       |
|                          | [ Hepatocellular Adenoma TGLs = 2-12 ]   |                              |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                              |                       |
| * Lymph Node, Mesenteric |  | Atrophy                      | Marked                |
| * Preputial Gland        |  | Cyst                         |                       |
|                          |  | Inflammation                 | Suppurative, Minimal  |
| * Spleen                 |  | Extramedullary Hematopoiesis | Minimal               |
| * Thymus                 |  | Atrophy                      | Moderate              |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 40

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 675

**DOSE:** 0 mg/L

**DISP:** Natural Death

**HISTO:** 1400489

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 41

TRT#: 1

SEX: Male

DAY ON TEST: 632

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400490

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Nose                      | * Pancreas               | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

- |                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |                      |                       |
|---|----------------------|-----------------------|
| * Bone  | Fibro-Osseous Lesion | Minimal               |
| * Bone Marrow   | Hypercellularity     | Minimal               |
| * Heart   |                      |                       |
| Note: Large epithelial-like cell(s) noted in vascular channel within heart muscle.  |                      |                       |
| Note: These cells are interpreted to be hepatocytes dissected from liver due to hemangiosarcoma.  |                      |                       |
| * Islets, Pancreatic  | Hyperplasia          | Mild                  |
| * Kidney  | Nephropathy          | Chronicprogr, Minimal |
|   | Pigment              | Mild                  |
| * Liver   | Basophilic Focus     |                       |
|   | Clear Cell Focus     |                       |
|   | Eosinophilic Focus   |                       |
|   | Hemangiosarcoma      |                       |
| [ Hemangiosarcoma TGLs = 2-12; 3-13 ]   |                      |                       |
| * Lymph Node, Mandibular  | Pigment              | Mild                  |
| * Lymph Node, Mesenteric  | Hyperplasia          | Lymphocyte, Marked    |
| Note: Coded hyperplasia rather than lymphoma because of scattered histiocytes, and more mature lymphocytes scattered in field of less mature lymphocytes. |                      |                       |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 41

TRT#: 1

SEX: Male

DAY ON TEST: 632

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400490

ORGAN AND ACCOUNTABLE SITE STATUS

Note: In addition, there is no movement of these lymphocytes into adjacent mesentery, nor involvement of other organs, including liver or lymph tissues.

[ Hyperplasia TGLs = 1-11 ]

|                 |          |                              |         |
|-----------------|----------|------------------------------|---------|
| * Spleen        |          | Extramedullary Hematopoiesis | Mild    |
| * Thymus        |          | Atrophy                      | Mild    |
| * Thyroid Gland | Follicle | Degeneration                 | Minimal |
| Tooth           |          | Dental Dysplasia             | Mild    |

PRIMARY CAUSE OF DEATH - Liver Hemangiosarcoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 42

TRT#: 1

SEX: Male

DAY ON TEST: 689

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400491

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |                                  |                                |                         |
|---|----------------------------------|--------------------------------|-------------------------|
| * Bone Marrow   |                                  | Hypercellularity               | Minimal                 |
| * Brain   |                                  | Hemorrhage                     | Minimal                 |
| Note: Multifocal peracute hemorrhages noted in brain sections; presumed to be agonal. |                                  |                                |                         |
| * Islets, Pancreatic  |                                  | Hyperplasia                    | Mild                    |
| * Kidney  |                                  | Bacteria                       |                         |
|   |                                  | Mineral                        | Minimal                 |
|   |                                  | Nephropathy                    | Chronicprogr, Minimal   |
| * Liver   |                                  | Basophilic Focus               |                         |
| * Lung  |                                  | Alveolar/Bronchiolar Carcinoma |                         |
|   | [ Alveolar/Bronchiolar Carcinoma | TGLs = 1-11 ]                  |                         |
| * Nose  | Olfactory Epi                    | Metaplasia                     | Respiratory, Minimal    |
| * Prostate  |                                  | Inflammation                   | Chronic Active, Minimal |
| Testis  | Germinal Epith                   | Degeneration                   | Minimal                 |
| * Thymus  |                                  | Atrophy                        | Marked                  |
| * Thyroid Gland   | Follicle                         | Degeneration                   | Minimal                 |
| Tooth   |                                  | Dental Dysplasia               | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 42

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 689

**DOSE:** 0 mg/L

**DISP:** Moribund Sacrifice

**HISTO:** 1400491

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 43

TRT#: 1

SEX: Male

DAY ON TEST: 666

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400492

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                      |  |                          |                       |
|----------------------|--|--------------------------|-----------------------|
| * Bone               |  | Fibro-Osseous Lesion     | Minimal               |
| * Bone Marrow        |  | Hypercellularity         | Minimal               |
| * Islets, Pancreatic |  | Hyperplasia              | Mild                  |
| * Kidney             |  | Mineral                  | Minimal               |
|                      |  | Nephropathy              | Chronicprogr, Minimal |
|                      |  | Pigment                  | Minimal               |
| * Liver              |  | Hepatoblastoma           |                       |
|                      |  | Hepatocellular Adenoma   | Multiple              |
|                      |  | Hepatocellular Carcinoma |                       |
|                      | Note: Hepatoblastoma within much larger carcinoma on slide 12. |                          |                       |
|                      | [ Hepatocellular Adenoma                                       | TGLs = 2-11 ]            |                       |
|                      | [ Hepatocellular Carcinoma                                     | TGLs = 1-12 ]            |                       |
| * Nose               | Olfactory Epi  | Metaplasia               | Respiratory, Minimal  |
| * Spleen             | White Pulp   | Atrophy                  | Minimal               |
| Tooth                |  | Dental Dysplasia         | Moderate              |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 43

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 666

**DOSE:** 0 mg/L

**DISP:** Natural Death

**HISTO:** 1400492

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 44

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400493

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                      |                              |                    |
|----------------------|------------------------------|--------------------|
| * Bone Marrow        | Hypercellularity             | Mild               |
| * Heart              | Cardiomyopathy               | Minimal            |
| * Islets, Pancreatic | Hyperplasia                  | Minimal            |
| * Kidney             | Nephropathy                  | Chronicprogr, Mild |
|                      | Pigment                      | Minimal            |
| * Liver              | Extramedullary Hematopoiesis | Minimal            |
|                      | Hepatocellular Adenoma       | Multiple           |
|                      | Hepatocellular Carcinoma     |                    |

Note: Evidence of additional hepato adenomas also on routine sections.

[ Hepatocellular Adenoma TGLs = 2,3-12+13; 5-15 ]

[ Hepatocellular Carcinoma TGLs = 1-11 ]

|                          |                          |                         |
|--------------------------|--------------------------|-------------------------|
| * Lung                   | Hepatocellular Carcinoma | Metastatic (Liver)      |
| * Lymph Node, Mesenteric | Infiltration Cellular    | Histiocyte, Marked      |
| * Nose                   | Metaplasia               | Respiratory, Minimal    |
| * Preputial Gland        | Cyst                     |                         |
|                          | Inflammation             | Chronic Active, Minimal |
| * Prostate               | Inflammation             | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 44

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400493

ORGAN AND ACCOUNTABLE SITE STATUS

\* Seminal Vesicle

Atrophy

Mild

Inflammation

Suppurative, Marked

Note: Unilateral "atrophy" (TGL-3) coded in relation to contralateral side which is dilated and filled with neutrophilic infiltrate (coded "inflammation").

[ Atrophy TGLs = 4-14 ]

\* Spleen

Extramedullary Hematopoiesis

Minimal

Testis

Germinal Epith

Degeneration

Moderate

Tooth

Dental Dysplasia

Marked

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 45

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400494

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                          |                        |                       |
|--------------------------|------------------------|-----------------------|
| * Adrenal Cortex         | Hypertrophy            | Minimal               |
| * Intestine Large, Cecum | Pigment                | Minimal               |
| * Islets, Pancreatic     | Hyperplasia            | Minimal               |
| * Kidney                 | Nephropathy            | Chronicprogr, Minimal |
|                          | Pigment                | Minimal               |
| * Liver                  | Clear Cell Focus       |                       |
|                          | Hemangioma             |                       |
|                          | Hepatocellular Adenoma | Multiple              |

Note: Anatomic deformity (nodule with fibrosis) noted on slide 04 adjacent to gallbladder. Appears to be extrahepatic nodule, not continuous with median lobe.

Note: Hemangio is on recut slide 13I.

[ Clear Cell Focus TGLs = 2-12; 3-13 ]

[ Hemangioma TGLs = 3-13 ]

[ Hepatocellular Adenoma TGLs = 4-14; 2-12; 3-13 ]

- |                          |                         |         |      |
|--------------------------|-------------------------|---------|------|
| * Lymph Node, Mesenteric | Lymph Sinus             | Ectasia | Mild |
|                          | [ Ectasia TGLs = 5-15 ] |         |      |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 45

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400494

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|                                       |                |                  |                      |
|---------------------------------------|----------------|------------------|----------------------|
| Mesentery<br>[ Necrosis TGLs = 1-11 ] | Fat            | Necrosis         | Marked               |
| * Nose                                | Olfactory Epi  | Metaplasia       | Respiratory, Minimal |
| Testis                                | Germinal Epith | Degeneration     | Minimal              |
| Tooth                                 |                | Dental Dysplasia | Moderate             |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 46

TRT#: 1

SEX: Male

DAY ON TEST: 468

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400495

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                           |                             |                          |
|--------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                  | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder            | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Lymph Node, Mandibular | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland        | * Preputial Gland         | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                   | * Stomach, Forestomach    | Testis                      | * Thyroid Gland          |
| * Trachea                | * Urinary Bladder         |                             |                          |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                            |              |                  |                        |
|----------------------------|--------------|------------------|------------------------|
| * Bone Marrow              |              | Hypercellularity | Minimal                |
| * Intestine Small, Jejunum | Peyers Patch | Hyperplasia      | Marked                 |
|                            |              | Inflammation     | Chronic Active, Marked |
|                            |              | Ulcer            | Marked                 |

Note: Transmural ulcer and necrosis, massive inflammation, marked lymphoid hyperplasia.

[ Hyperplasia TGLs = 3-13 ]

- |                      |        |              |                     |
|----------------------|--------|--------------|---------------------|
| * Islets, Pancreatic |        | Hyperplasia  | Minimal             |
| * Kidney             | Pelvis | Bacteria     |                     |
|                      |        | Dilation     | Moderate            |
|                      |        | Inflammation | Suppurative, Marked |
|                      |        | Mineral      | Minimal             |

Note: Marked chronic-active (suppurative, mixed cell) inflammation in tubules and pelvis; bacteria packed in many tubules.

[ Inflammation TGLs = 5-5 ]

- |         |            |                              |         |
|---------|------------|------------------------------|---------|
| * Liver |            | Extramedullary Hematopoiesis | Minimal |
|         |            | Hepatocellular Carcinoma     |         |
|         | Hepatocyte | Necrosis                     | Mild    |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 46

TRT#: 1

SEX: Male

DAY ON TEST: 468

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400495

ORGAN AND ACCOUNTABLE SITE STATUS

[ Hepatocellular Carcinoma TGLs = 2-12 ]

|                          |                          |                    |
|--------------------------|--------------------------|--------------------|
| * Lung                   | Hepatocellular Carcinoma | Metastatic (Liver) |
| * Lymph Node, Mesenteric | Hyperplasia              | Lymphocyte, Marked |

Note: Lymph node on slide 06 also has marked lymphoid hyperplasia, due to jejunum transmural ulcer and infection.

[ Hyperplasia TGLs = 4-14 ]

|            |                 |                     |
|------------|-----------------|---------------------|
| * Prostate | Inflammation    | Suppurative, Marked |
| * Spleen   | Hemangiosarcoma |                     |

[ Hemangiosarcoma TGLs = 1-11 ]

|                      |                  |         |
|----------------------|------------------|---------|
| * Stomach, Glandular | Erosion          | Minimal |
| * Thymus             | Atrophy          | Marked  |
| Tooth                | Dental Dysplasia | Mild    |

PRIMARY CAUSE OF DEATH - Intestine Small, Jejunum Ulcer  
CONTRIBUTORY CAUSE OF DEATH - Kidney Inflammation  
- Liver Hepatocellular Carcinoma  
- Spleen Hemangiosarcoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 578

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400496

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                      |   |                              |                       |
|----------------------|---|------------------------------|-----------------------|
| * Bone Marrow        |   | Hypercellularity             | Minimal               |
| * Islets, Pancreatic |   | Hyperplasia                  | Minimal               |
| * Kidney             |   | Nephropathy                  | Chronicprogr, Minimal |
|                      |   | Pigment                      | Minimal               |
| * Liver              |   | Hepatocellular Adenoma       |                       |
|                      |   | Hepatocellular Carcinoma     |                       |
|                      | [ Hepatocellular Adenoma TGLs = 3-12 ]                            |                              |                       |
|                      | [ Hepatocellular Carcinoma TGLs = 2-11 ]                          |                              |                       |
| * Lung               |   | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| * Lym Node Mesen     |   |                              |                       |
|                      | Note: Acute hemorrhage with cellular infiltrate in sinuses noted. |                              |                       |
| * Nose               | Olfactory Epi   | Metaplasia                   | Respiratory, Mild     |
| * Spleen             |   | Extramedullary Hematopoiesis | Mild                  |
| * Thymus             |   | Atrophy                      | Moderate              |
| Tooth                |   | Dental Dysplasia             | Mild                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 47

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 578

**DOSE:** 0 mg/L

**DISP:** Natural Death

**HISTO:** 1400496

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400497

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Liver                   | * Lung                      | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |                |                       |                          |
|---|----------------|-----------------------|--------------------------|
| * Adrenal Cortex  |                | Hypertrophy           | Minimal                  |
| * Islets, Pancreatic  |                | Hyperplasia           | Minimal                  |
| * Kidney  |                | Infarct               | Mild                     |
|   |                | Nephropathy           | Chronicprogr, Minimal    |
|   |                | Pigment               | Minimal                  |
| * Lymph Node, Mandibular                                    |                | Infiltration Cellular | Histiocyte, Moderate     |
| * Nose  |                |                       |                          |
| Note: Nose and epithelium deformed by expansile tooth mass. |                |                       |                          |
| * Seminal Vesicle   |                | Inflammation          | Suppurative, Moderate    |
| Testis  | Germinal Epith | Degeneration          | Minimal                  |
| Tooth   |                | Odontoma              |                          |
| Urethra   |                | Inflammation          | Chronic Active, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 49

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400498

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                                    |  |                       |
|------------------------------------|--|-----------------------|
| * Adrenal Cortex                   | Hypertrophy                            | Minimal               |
| * Harderian Gland                  | Adenoma                                |                       |
| * Islets, Pancreatic               | Hyperplasia                            | Mild                  |
| * Kidney                           | Mineral                                | Minimal               |
|                                    | Nephropathy                            | Chronicprogr, Minimal |
|                                    | Pigment                                | Minimal               |
| * Liver                            | Clear Cell Focus                       |                       |
|                                    | Eosinophilic Focus                     |                       |
|                                    | Hepatocellular Adenoma                 |                       |
|                                    | [ Hepatocellular Adenoma TGLs = 1-11 ] |                       |
| * Preputial Gland                  | Cyst                                   |                       |
| * Thymus                           |  |                       |
| Note: Ectopic parathyroid present. |  |                       |
| Tooth                              | Dental Dysplasia                       | Marked                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400499

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | Ear                       |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    |
| * Trachea                   | * Urinary Bladder        |                            |                           |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|  |              |                       |                        |
|--|--------------|-----------------------|------------------------|
| * Adrenal Cortex   |              | Hyperplasia           | Minimal                |
| * Bone Marrow  |              | Hypercellularity      | Minimal                |
| * Brain  |              | Thrombus              |                        |
| Note: Sllide 3 - meningeal artery has thrombus and cuff of mixed inflammatory cells. |              |                       |                        |
| * Heart  | Coron Artery | Inflammation          | Chronic Active, Mild   |
| * Islets, Pancreatic   |              | Hyperplasia           | Mild                   |
| * Kidney   | Renal Tubule | Cyst                  |                        |
|  | Pelvis       | Dilation              | Moderate               |
|  | Pelvis       | Infiltration Cellular | Plasma Cell, Mild      |
|  | Artery       | Inflammation          | Chronic Active, Marked |
|  |              | Inflammation          | Chronic Active, Marked |
|  |              | Nephropathy           | Chronicprogr, Marked   |
|  |              | Pigment               | Minimal                |

Note: Marked nephropathy - right kidney, less so in left kidney.

[ Cyst TGLs = 4-15 ]

[ Dilation TGLs = 5-5 ]

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400499

ORGAN AND ACCOUNTABLE SITE STATUS

|   |            |                       |                          |
|---|------------|-----------------------|--------------------------|
| * Liver   | Hepatocyte | Necrosis              | Marked                   |
| Note: Altered hepatocyte focus on slide 11 (normal control collected for molecular biology purposes) appears to be due to handling.<br>[ Necrosis TGLs = 3-14 ] |            |                       |                          |
| * Lymph Node, Mandibular  |            | Infiltration Cellular | Histiocyte, Moderate     |
| Mesentery   |            | Inflammation          | Chronic Active, Moderate |
| * Preputial Gland   |            | Cyst                  |                          |
|   |            | Inflammation          | Suppurative, Marked      |
| * Seminal Vesicle   |            | Inflammation          | Suppurative, Marked      |
| Note: TGL-2 is fibrotic inflammatory nodule of seminal vesicle tissue, not pancreas at postulated at necropsy.<br>[ Inflammation TGLs = 1,2-12+13 ]             |            |                       |                          |
| * Thymus  |            | Atrophy               | Moderate                 |
| * Thyroid Gland   | Follicle   | Degeneration          | Minimal                  |
| Tooth   |            | Dental Dysplasia      | Moderate                 |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 51

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400500

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Pancreas                | * Pituitary Gland           | * Preputial Gland        | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                  |  |                                   |                       |
|------------------|--|-----------------------------------|-----------------------|
| * Adrenal Cortex |  | Accessory Adrenal Cortical Nodule |                       |
|                  |  | Hypertrophy                       | Minimal               |
| * Bone Marrow    |  | Hypercellularity                  | Mild                  |
| * Kidney         | Renal Tubule                               | Cyst                              |                       |
|                  |  | Nephropathy                       | Chronicprogr, Minimal |
|                  | [ Cyst TGLs = 4-5 ]                        |                                   |                       |
| * Liver          |  | Clear Cell Focus                  |                       |
|                  |  | Eosinophilic Focus                |                       |
|                  | Hepatocyte                                 | Fatty Change                      | Focal, Minimal        |
|                  |  | Hepatocellular Adenoma            | Multiple              |
|                  | [ Clear Cell Focus TGLs = 3-6 ]            |                                   |                       |
|                  | [ Fatty Change TGLs = 3-4 ]                |                                   |                       |
|                  | [ Hepatocellular Adenoma TGLs = 1,2-11+6 ] |                                   |                       |
| * Nose           | Olfactory Epi                              | Metaplasia                        | Respiratory, Minimal  |
| * Prostate       |  | Hyperplasia                       | Mild                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 51

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400500

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 52

TRT#: 3

SEX: Male

DAY ON TEST: 709

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400501

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |  |              |   |                       |
|--|--------------|---|-----------------------|
| * Bone Marrow  |              | Hypercellularity                              | Minimal               |
| * Islets, Pancreatic   |              | Hyperplasia                                   | Mild                  |
| * Kidney   |              | Nephropathy                                   | Chronicprogr, Minimal |
|  | Renal Tubule | Regeneration                                  | Mild                  |
| * Liver  |              | Cholangiocarcinoma                            |                       |
|  |              | Hepatocellular Adenoma                        |                       |
|  |              | Hepatocellular Carcinoma                      | Multiple              |
| Note: "Pancreas" mass (TGL-4) is a hepato adenoma-cholangiocarc collision tumor. |              |   |                       |
|  |              | [ Cholangiocarcinoma TGLs = 4-14 ]            |                       |
|  |              | [ Hepatocellular Adenoma TGLs = 3,4-13+14 ]   |                       |
|  |              | [ Hepatocellular Carcinoma TGLs = 1,2-11+12 ] |                       |
| * Lymph Node, Mandibular   |              | Infiltration Cellular                         | Histiocyte, Moderate  |
| * Lymph Node, Mesenteric   |              | Atrophy                                       | Moderate              |
| * Spleen   | White Pulp   | Atrophy                                       | Moderate              |
|  |              | Extramedullary Hematopoiesis                  | Minimal               |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 52

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 709

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400501

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Marked

---

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 53

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400502

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                            |   |                                |                         |
|----------------------------|---|--------------------------------|-------------------------|
| * Bone Marrow              |   | Hypercellularity               | Minimal                 |
| * Epididymis               |   |                                |                         |
| Note: Focal mineral noted. |   |                                |                         |
| * Islets, Pancreatic       |   | Hyperplasia                    | Marked                  |
| * Kidney                   | Renal Tubule  | Hyperplasia                    | Minimal                 |
|                            |   | Nephropathy                    | Chronicprogr, Minimal   |
| * Liver                    |   | Clear Cell Focus               |                         |
|                            |   | Eosinophilic Focus             |                         |
|                            |   | Hepatocellular Carcinoma       |                         |
|                            | [ Hepatocellular Carcinoma TGLs = 1-11 ]            |                                |                         |
| * Lung                     |   | Alveolar/Bronchiolar Carcinoma | Multiple                |
|                            | [ Alveolar/Bronchiolar Carcinoma TGLs = 2,3-12+13 ] |                                |                         |
| * Nose                     | Olfactory Epi                                       | Metaplasia                     | Respiratory, Minimal    |
| * Preputial Gland          |   | Cyst                           |                         |
|                            |   | Inflammation                   | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 53

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400502

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Testis

Germinal Epith

Degeneration

Minimal

Tooth

Dental Dysplasia

Minimal

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 54

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400503

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Gallbladder               | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | Oral Mucosa               |
| * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     | * Thymus                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                                  |                              |                       |
|--------------------------|----------------------------------|------------------------------|-----------------------|
| * Adrenal Cortex         |                                  | Hyperplasia                  | Minimal               |
|                          | Subcapsular                      | Hyperplasia                  | Marked                |
|                          |                                  | Hypertrophy                  | Minimal               |
| * Harderian Gland        |                                  | Hyperplasia                  | Mild                  |
| * Intestine Large, Cecum |                                  | Pigment                      | Minimal               |
| * Kidney                 |                                  | Nephropathy                  | Chronicprogr, Minimal |
|                          | Note: Heterotopic bone present.  |                              |                       |
| * Liver                  |                                  | Clear Cell Focus             |                       |
|                          | [ Clear Cell Focus TGLs = 1-12 ] |                              |                       |
| * Lung                   |                                  | Alveolar/Bronchiolar Adenoma |                       |
|                          | Alveolar Epith                   | Hyperplasia                  | Mild                  |
| * Pancreas               | Acinus                           | Atrophy                      | Minimal               |
| * Thyroid Gland          | Follicle                         | Degeneration                 | Mild                  |
| Tooth                    |                                  | Dental Dysplasia             | Minimal               |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 55

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400504

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                                |  |                               |                     |
|--------------------------------|--|-------------------------------|---------------------|
| * Adrenal Cortex               |  | Hypertrophy                   | Minimal             |
| * Bone Marrow                  |  | Hypercellularity              | Minimal             |
| * Eye                          |  |                               |                     |
| Note: No optic nerve on slide. |  |                               |                     |
| * Islets, Pancreatic           |  | Hyperplasia                   | Minimal             |
| * Kidney                       | Renal Tubule                                 | Cyst                          |                     |
|                                |  | Nephropathy                   | Chronicprogr, Mild  |
|                                | Renal Tubule                                 | Regeneration                  | Mild                |
| * Liver                        |  | Eosinophilic Focus            |                     |
|                                |  | Hepatocellular Carcinoma      | Multiple            |
|                                |  | Infiltration Cellular         | Mixed Cell, Minimal |
|                                | Hepatocyte                                   | Necrosis                      | Minimal             |
|                                | [ Eosinophilic Focus TGLs = 3-12 ]           |                               |                     |
|                                | [ Hepatocellular Carcinoma TGLs = 1,2-13+6 ] |                               |                     |
| * Nose                         | Respirat Epith                               | Accumulation, Hyaline Droplet | Minimal             |
| * Preputial Gland              |  | Cyst                          |                     |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 55

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400504

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Extramedullary Hematopoiesis

Minimal

Tooth

Dental Dysplasia

Minimal

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 56

TRT#: 3

SEX: Male

DAY ON TEST: 453

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400505

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                                     |                |                              |                       |
|-------------------------------------|----------------|------------------------------|-----------------------|
| * Adrenal Cortex                    |                | Necrosis                     | Marked                |
| Note: Unilateral cortical necrosis. |                |                              |                       |
| * Bone Marrow                       |                | Hypercellularity             | Minimal               |
| * Kidney                            |                | Nephropathy                  | Chronicprogr, Minimal |
|                                     | Renal Tubule   | Regeneration                 | Minimal               |
| * Liver                             |                | Hepatocellular Carcinoma     |                       |
|                                     | Hepatocyte     | Necrosis                     | Mild                  |
| [ Hepatocellular Carcinoma          | TGLs = 1-11 ]  |                              |                       |
| * Lung                              |                | Hepatocellular Carcinoma     | Metastatic (Liver)    |
|                                     | Alveolar Epith | Hyperplasia                  | Marked                |
| * Nose                              | Olfactory Epi  | Metaplasia                   | Respiratory, Minimal  |
| * Preputial Gland                   |                | Cyst                         |                       |
| * Spleen                            |                | Extramedullary Hematopoiesis | Mild                  |
| * Thymus                            |                | Atrophy                      | Moderate              |

PRIMARY CAUSE OF DEATH - Liver Hepatocyte Necrosis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 57

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400506

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |   |                               |                      |
|----------------------|---|-------------------------------|----------------------|
| * Bone Marrow        |   | Hypercellularity              | Minimal              |
| * Islets, Pancreatic |   | Hyperplasia                   | Minimal              |
| * Kidney             |   | Nephropathy                   | Chronicprogr, Marked |
|                      | Renal Tubule                                  | Regeneration                  | Mild                 |
| * Liver              |   | Hepatocellular Carcinoma      | Multiple             |
|                      | [ Hepatocellular Carcinoma TGLs = 1,2-5+4+6 ] |                               |                      |
| * Lung               |   | Hepatocellular Carcinoma      | Metastatic (Liver)   |
| Mesentery            | Fat   | Necrosis                      | Moderate             |
| * Nose               | Respirat Epith                                | Accumulation, Hyaline Droplet | Minimal              |
| * Preputial Gland    |   | Cyst                          |                      |
| * Spleen             |   | Extramedullary Hematopoiesis  | Minimal              |
| Testis               | Germinal Epith                                | Degeneration                  | Minimal              |
| Tooth                |   | Dental Dysplasia              | Marked               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 58

TRT#: 3

SEX: Male

DAY ON TEST: 440

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400507

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

**MISSING**

|               |                 |                     |          |
|---------------|-----------------|---------------------|----------|
| * Gallbladder | * Mammary Gland | * Parathyroid Gland | * Thymus |
|---------------|-----------------|---------------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|               |  |                              |                       |
|---------------|--|------------------------------|-----------------------|
| * Bone Marrow |  | Hypercellularity             | Minimal               |
| * Kidney      |  | Nephropathy                  | Chronicprogr, Minimal |
|               | Renal Tubule                             | Regeneration                 | Mild                  |
| * Liver       |  | Hepatocellular Carcinoma     |                       |
|               | Hepatocyte                               | Necrosis                     | Minimal               |
|               | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                              |                       |
| * Lung        |  | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| * Spleen      |  | Extramedullary Hematopoiesis | Minimal               |

**PRIMARY CAUSE OF DEATH**

- Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 59

TRT#: 3

SEX: Male

DAY ON TEST: 481

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400508

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Bone Marrow             | * Brain                     | * Epididymis             | * Esophagus                |
| * Eye                     | * Gallbladder               | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| Testis                    | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

|                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mesenteric | * Mammary Gland |
|--------------------------|-----------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |            |
|--------------------------|--|------------|
| * Brain                  | Note: Generalized vascular dilation and congestion; peracute "hemorrhage" in various areas interpreted to be agonal and not coded. |            |
| * Harderian Gland        | Hyperplasia  | Moderate   |
| * Intestine Large, Cecum | Hemorrhage   | Marked     |
| * Kidney                 | Mineral  | Minimal    |
| * Liver                  | Hepatocellular Adenoma   |            |
|                          | [ Hepatocellular Adenoma TGLs = 1-5 ]  |            |
| * Lung                   | Alveolar/Bronchiolar Carcinoma   |            |
|                          | Note: Many eosinophilic macrophages typical of response to AB carc are present and not diagnosed separately.                       |            |
|                          | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-11 ]   |            |
| * Preputial Gland        | Cyst   |            |
|                          | Note: Only one full preputial gland presented.   |            |
| * Spleen                 | White Pulp   | Atrophy    |
|                          |  | Hemorrhage |
| * Thymus                 | Atrophy  | Marked     |

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 59

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 481

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400508

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Animal Note: Peracute hemorrhage noted in many organs (coded in spleen).

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**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 60

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400509

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                              |                |                              |                       |
|------------------------------|----------------|------------------------------|-----------------------|
| * Adrenal Cortex             | Subcapsular    | Hyperplasia                  | Marked                |
| * Bone Marrow                |                | Hypercellularity             | Minimal               |
| * Islets, Pancreatic         |                | Hyperplasia                  | Mild                  |
| * Kidney                     |                | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                      |                | Eosinophilic Focus           |                       |
| Note: Eos focus on slide 11. |                |                              |                       |
| * Lung                       |                | Alveolar/Bronchiolar Adenoma |                       |
| * Nose                       | Olfactory Epi  | Metaplasia                   | Respiratory, Minimal  |
| * Preputial Gland            |                | Cyst                         |                       |
| Testis                       | Germinal Epith | Degeneration                 | Minimal               |
| Tooth                        |                | Dental Dysplasia             | Marked                |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 61

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400510

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Brain                     |
| * Epididymis             | * Esophagus                | * Gallbladder             | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Pancreas                  |
| * Parathyroid Gland      | * Pituitary Gland          | * Preputial Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**MISSING**

|                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mesenteric | * Mammary Gland |
|--------------------------|-----------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                               |   |                        |                         |
|-------------------------------|---|------------------------|-------------------------|
| * Adrenal Cortex              |   | Hyperplasia            | Marked                  |
| * Bone Marrow                 |   | Hypercellularity       | Mild                    |
| * Epididymis                  |   |                        |                         |
| Note: Unilateral hypospermia. |   |                        |                         |
| * Eye                         | Lens                                    | Cataract               | Mild                    |
|                               | [ Cataract TGLs = 1-8 ]                 |                        |                         |
| * Harderian Gland             |   | Carcinoma              |                         |
|                               | [ Carcinoma TGLs = 2-8 ]                |                        |                         |
| * Islets, Pancreatic          |   | Hyperplasia            | Mild                    |
| * Kidney                      |   | Nephropathy            | Chronicprogr, Minimal   |
| * Liver                       |   | Hepatocellular Adenoma | Multiple                |
|                               | [ Hepatocellular Adenoma TGLs = 3,4-6 ] |                        |                         |
| * Lymph Node, Mandibular      |   | Hyperplasia            | Plasma Cell, Moderate   |
| * Nose                        |   | Foreign Body           |                         |
|                               |   | Inflammation           | Chronic Active, Minimal |
|                               | Olfactory Epi                           | Metaplasia             | Respiratory, Minimal    |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 61

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400510

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

|                 |                |                  |         |
|-----------------|----------------|------------------|---------|
| Testis          | Germinal Epith | Degeneration     | Minimal |
| * Thyroid Gland | Follicle       | Degeneration     | Minimal |
| Tooth           |                | Dental Dysplasia | Minimal |

---

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 62

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400511

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                          |
|-----------------------------|--------------------------|----------------------------|--------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                   |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                    |
| * Gallbladder               | * Heart                  | * Intestine Large, Cecum   | * Intestine Large, Colon |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic     |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                   |
| * Pancreas                  | * Parathyroid Gland      | * Prostate                 | * Salivary Glands        |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach   |
| * Stomach, Glandular        | Testis                   | * Thymus                   | * Thyroid Gland          |
| * Trachea                   | * Urinary Bladder        |                            |                          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                           |  |                        |                       |
|---------------------------|--|------------------------|-----------------------|
| * Bone Marrow             |  | Hypercellularity       | Minimal               |
| * Harderian Gland         |  | Carcinoma              |                       |
| * Intestine Large, Rectum |  | Inflammation           | Acute, Minimal        |
| * Kidney                  | Renal Tubule                           | Cyst                   |                       |
|                           |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver                   |  | Clear Cell Focus       |                       |
|                           |  | Hemangiosarcoma        |                       |
|                           | Hepatocyte                             | Hepatocellular Adenoma |                       |
|                           | [ Hemangiosarcoma TGLs = 1-11 ]        | Necrosis               | Minimal               |
|                           | [ Hepatocellular Adenoma TGLs = 2-12 ] |                        |                       |
| * Pituitary Gland         | Pars Distalis                          | Hyperplasia            | Moderate              |
| * Preputial Gland         |  | Cyst                   |                       |
|                           |  | Inflammation           | Suppurative, Mild     |
| * Thymus                  |  |                        |                       |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 62

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400511

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Note: Embedded parathyroid tissue noted.

Tooth

Dental Dysplasia

Minimal

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 63

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400512

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                               |   |                        |                       |
|-------------------------------|---|------------------------|-----------------------|
| * Adrenal Cortex              |   | Hyperplasia            | Minimal               |
|                               |   | Hypertrophy            | Minimal               |
| * Bone Marrow                 |   | Hypercellularity       | Minimal               |
| * Kidney                      | Renal Tubule                                | Cyst                   |                       |
|                               |   | Mineral                | Minimal               |
|                               |   | Nephropathy            | Chronicprogr, Minimal |
| Note: Heterotopic bone noted. |   |                        |                       |
| * Liver                       | [ Hepatocellular Adenoma TGLs = 1,2-12+13 ] | Hepatocellular Adenoma | Multiple              |
| * Lymph Node, Mandibular      |   | Hyperplasia            | Plasma Cell, Moderate |
| Tooth                         |   | Dental Dysplasia       | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 64

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400513

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                   |                                       |                         |                       |
|-------------------|---------------------------------------|-------------------------|-----------------------|
| * Adrenal Medulla |                                       | Pheochromocytoma Benign |                       |
| * Kidney          |                                       | Nephropathy             | Chronicprogr, Minimal |
| * Liver           |                                       | Clear Cell Focus        |                       |
|                   |                                       | Hepatocellular Adenoma  |                       |
|                   |                                       | Mixed Cell Focus        |                       |
|                   | [ Clear Cell Focus TGLs = 1-6+12 ]    |                         |                       |
|                   | [ Hepatocellular Adenoma TGLs = 2-5 ] |                         |                       |
| Testis            | Germinal Epith                        | Degeneration            | Minimal               |
| Tooth             |                                       | Dental Dysplasia        | Mild                  |



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 65

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 596

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400514

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Moderate

---

PRIMARY CAUSE OF DEATH

- Heart Inflammation

---



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 66

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400515

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |             |  |                       |
|---|-------------|--|-----------------------|
| * Adrenal Cortex  | Subcapsular | Adenoma                                  |                       |
| * Bone Marrow   |             | Hypercellularity                         | Mild                  |
| * Epididymis  |             |  |                       |
| Note: Hypospermia noted.                                      |             |  |                       |
| * Islets, Pancreatic  |             | Hyperplasia                              | Moderate              |
| * Kidney  |             | Nephropathy                              | Chronicprogr, Mild    |
| * Liver   |             | Basophilic Focus                         |                       |
|   |             | Eosinophilic Focus                       |                       |
|   |             | Hepatocellular Adenoma                   | Multiple              |
|   |             | Hepatocellular Carcinoma                 |                       |
|   | Bile Duct   | Inflammation                             | Chronic, Minimal      |
| Note: Large area of altered cell on slide 5 coded baso focus. |             |  |                       |
|   |             | [ Hepatocellular Adenoma TGLs = 2-12 ]   |                       |
|   |             | [ Hepatocellular Carcinoma TGLs = 3-13 ] |                       |
|   |             | [ Inflammation TGLs = 4-14 ]             |                       |
| * Lymph Node, Mandibular                                      |             | Hyperplasia                              | Plasma Cell, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 66

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400515

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|                               |                |                  |          |
|-------------------------------|----------------|------------------|----------|
| [ Hyperplasia TGLs = 1-7+11 ] |                |                  |          |
| * Preputial Gland             |                | Cyst             |          |
| [ Cyst TGLs = 5-15 ]          |                |                  |          |
| Testis                        | Germinal Epith | Degeneration     | Moderate |
| * Thyroid Gland               | Follicle       | Degeneration     | Minimal  |
| Tooth                         |                | Dental Dysplasia | Marked   |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 67

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400516

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Thymus                    | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                              |                                    |                       |                       |
|------------------------------|------------------------------------|-----------------------|-----------------------|
| * Bone Marrow                |                                    | Hypercellularity      | Mild                  |
| * Heart                      |                                    | Hemangioma            |                       |
| * Islets, Pancreatic         |                                    | Hyperplasia           | Minimal               |
| * Kidney                     |                                    | Nephropathy           | Chronicprogr, Minimal |
| * Liver                      |                                    | Clear Cell Focus      |                       |
|                              | Hepatocyte                         | Eosinophilic Focus    |                       |
|                              |                                    | Fatty Change          | Focal, Minimal        |
|                              |                                    | Infiltration Cellular | Mixed Cell, Minimal   |
|                              |                                    | Mixed Cell Focus      |                       |
|                              | [ Mixed Cell Focus TGLs = 1,2-11 ] |                       |                       |
| * Parathyroid Gland          |                                    |                       |                       |
| Note: Embedded thymus noted. |                                    |                       |                       |
| * Preputial Gland            |                                    | Inflammation          | Suppurative, Marked   |
| * Stomach, Glandular         |                                    | Mineral               | Minimal               |
| Testis                       | Germinal Epith                     | Degeneration          | Mild                  |
| * Thyroid Gland              | Follicle                           | Degeneration          | Minimal               |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 67

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400516

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 68

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400517

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

**MISSING**

|              |                 |          |
|--------------|-----------------|----------|
| * Epididymis | * Mammary Gland | * Thymus |
|--------------|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                      |  |                          |                       |
|----------------------|--|--------------------------|-----------------------|
| * Adrenal Cortex     | Subcapsular                                  | Hyperplasia              | Mild                  |
|                      |  | Hypertrophy              | Minimal               |
| * Bone Marrow        |  | Hypercellularity         | Mild                  |
| * Islets, Pancreatic |  | Hyperplasia              | Mild                  |
| * Kidney             |  | Nephropathy              | Chronicprogr, Minimal |
| * Liver              |  | Eosinophilic Focus       |                       |
|                      |  | Hepatocellular Adenoma   | Multiple              |
|                      |  | Hepatocellular Carcinoma |                       |
|                      | [ Hepatocellular Adenoma TGLs = 2,3-13+14 ]  |                          |                       |
|                      | [ Hepatocellular Carcinoma TGLs = 1-12+4+6 ] |                          |                       |
| * Parathyroid Gland  |  | Cyst                     |                       |
| * Preputial Gland    |  | Cyst                     |                       |
|                      |  | Inflammation             | Suppurative, Marked   |
| Tooth                |  | Dental Dysplasia         | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 69

TRT#: 3

SEX: Male

DAY ON TEST: 536

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400518

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mesenteric    |
| * Pancreas               | * Pituitary Gland          | * Preputial Gland         | * Salivary Glands           |
| * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| Testis                   | * Thyroid Gland            | * Trachea                 |                             |

**MISSING**

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |  |                               |                        |
|---|--|-------------------------------|------------------------|
| * Islets, Pancreatic                              |  | Hyperplasia                   | Minimal                |
| * Kidney  | Pelvis                                   | Inflammation                  | Suppurative, Marked    |
|   |  | Nephropathy                   | Chronicprogr, Moderate |
| Note: Wedge of inflammation also in renal cortex. |  |                               |                        |
| * Liver   |  | Hepatocellular Adenoma        |                        |
|   |  | Hepatocellular Carcinoma      |                        |
|   | [ Hepatocellular Adenoma TGLs = 1-4+6 ]  |                               |                        |
|   | [ Hepatocellular Carcinoma TGLs = 2-11 ] |                               |                        |
| * Lymph Node, Mandibular                          |  | Atrophy                       | Moderate               |
| * Nose  | Respirat Epith                           | Accumulation, Hyaline Droplet | Minimal                |
|   | Olfactory Epi                            | Metaplasia                    | Respiratory, Minimal   |
| * Prostate  |  | Inflammation                  | Chronic Active, Mild   |
| * Spleen  | Red Pulp                                 | Atrophy                       | Marked                 |
|   | White Pulp                               | Atrophy                       | Moderate               |
|   |  | Extramedullary Hematopoiesis  | Minimal                |
| * Thymus  |  | Atrophy                       | Marked                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 69

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 536

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400518

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Urinary Bladder

Inflammation

Chronic Active, Mild

---

PRIMARY CAUSE OF DEATH

- Kidney Pelvis Inflammation

CONTRIBUTORY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 70

TRT#: 3

SEX: Male

DAY ON TEST: 650

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400519

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Preputial Gland          | * Prostate                | * Salivary Glands           |
| * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| Testis                   | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**INSUFFICIENT TISSUE**

\* Gallbladder

**OBSERVATIONS**

|                  |   |                              |                       |
|------------------|---|------------------------------|-----------------------|
| * Adrenal Cortex |   | Hypertrophy                  | Minimal               |
| * Bone Marrow    |   | Hypercellularity             | Mild                  |
| * Heart          | Atrium                                      | Hemangiosarcoma              |                       |
|                  | Atrium                                      | Thrombus                     |                       |
|                  | [ Hemangiosarcoma TGLs = 4-4+14 ]           |                              |                       |
|                  | [ Thrombus TGLs = 4-4+14 ]                  |                              |                       |
| * Kidney         |   | Nephropathy                  | Chronicprogr, Minimal |
| * Liver          |   | Hemangiosarcoma              |                       |
|                  | [ Hemangiosarcoma TGLs = 1,2,3-11+4+12+13 ] |                              |                       |
| * Lung           |   | Hemangiosarcoma              |                       |
| * Spleen         |   | Extramedullary Hematopoiesis | Mild                  |

PRIMARY CAUSE OF DEATH

- Heart Atrium Thrombus

CONTRIBUTORY CAUSE OF DEATH

- Heart Atrium Hemangiosarcoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 71

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400520

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |   |                               |                       |
|--------------------------|---|-------------------------------|-----------------------|
| * Adrenal Medulla        |   | Pheochromocytoma Benign       |                       |
| * Bone Marrow            |   | Hypercellularity              | Minimal               |
| * Intestine Large, Cecum |   | Pigment                       | Minimal               |
| * Islets, Pancreatic     |   | Hyperplasia                   | Minimal               |
| * Kidney                 | Renal Tubule  | Hyperplasia                   | Minimal               |
|                          |   | Nephropathy                   | Chronicprogr, Minimal |
| * Liver                  |   | Eosinophilic Focus            |                       |
|                          |   | Hepatocellular Adenoma        |                       |
|                          |   | Hepatocellular Carcinoma      | Multiple              |
|                          | [ Hepatocellular Adenoma TGLs = 3-5+12 ]              |                               |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 1-11+12; 2-4+6+12 ] |                               |                       |
| * Nose                   | Respirat Epith  | Accumulation, Hyaline Droplet | Mild                  |
|                          | Olfactory Epi   | Metaplasia                    | Respiratory, Mild     |
| * Preputial Gland        |   | Cyst                          |                       |
| Tooth                    |   | Dental Dysplasia              | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 72

TRT#: 3

SEX: Male

DAY ON TEST: 694

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400521

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| Testis                     | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                      |        |                |                         |
|----------------------|--------|----------------|-------------------------|
| * Heart              |        | Cardiomyopathy | Minimal                 |
| * Islets, Pancreatic |        | Hyperplasia    | Moderate                |
| * Kidney             | Pelvis | Inflammation   | Chronic Active, Minimal |
|                      |        | Nephropathy    | Chronicprogr, Minimal   |

Note: Pale notation at necropsy believed to be autolysis artifact.

|         |  |                          |  |
|---------|--|--------------------------|--|
| * Liver |  | Eosinophilic Focus       |  |
|         |  | Hepatoblastoma           |  |
|         |  | Hepatocellular Adenoma   |  |
|         |  | Hepatocellular Carcinoma |  |

[ Hepatoblastoma TGLs = 3-13 ]  
 [ Hepatocellular Adenoma TGLs = 3-13 ]  
 [ Hepatocellular Carcinoma TGLs = 2-12 ]

|        |  |                              |                    |
|--------|--|------------------------------|--------------------|
| * Lung |  | Alveolar/Bronchiolar Adenoma |                    |
|        |  | Hepatocellular Carcinoma     | Metastatic (Liver) |

[ Hepatocellular Carcinoma TGLs = 5-15 ]

|        |               |            |                      |
|--------|---------------|------------|----------------------|
| * Nose | Olfactory Epi | Metaplasia | Respiratory, Minimal |
|--------|---------------|------------|----------------------|

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 72

TRT#: 3

SEX: Male

DAY ON TEST: 694

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400521

ORGAN AND ACCOUNTABLE SITE STATUS

\* Preputial GI

Note: Only one preputial on slide.

\* Prostate

Inflammation

Chronic Active, Mild

\* Spleen

Red Pulp

Atrophy

Marked

White Pulp

Atrophy

Marked

\* Thymus

Atrophy

Moderate

Tooth

Dental Dysplasia

Moderate

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 73

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400522

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Mammary Gland          | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| Testis                    | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

\* Gallbladder

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |   |                              |                       |
|--------------------------|---|------------------------------|-----------------------|
| * Bone Marrow            |   | Hypercellularity             | Mild                  |
| * Islets, Pancreatic     |   | Hyperplasia                  | Minimal               |
| * Kidney                 |   | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                  |   | Hepatoblastoma               |                       |
|                          |   | Hepatocellular Carcinoma     | Multiple              |
|                          | [ Hepatoblastoma TGLs = 3-12 ]                |                              |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 2,4-11+13 ] |                              |                       |
| * Lymph Node, Mesenteric |   | Atrophy                      | Moderate              |
| * Nose                   | Olfactory Epi                                 | Metaplasia                   | Respiratory, Minimal  |
| * Spleen                 |   | Extramedullary Hematopoiesis | Minimal               |
| * Stomach, Glandular     |   | Cyst                         |                       |
| * Thymus                 |   | Atrophy                      | Marked                |
| Tooth                    |   | Dental Dysplasia             | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 74

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400523

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Brain                   | * Epididymis                |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Pancreas                 | * Parathyroid Gland       | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |                                   |                      |                         |
|----------------------|-----------------------------------|----------------------|-------------------------|
| * Adrenal Cortex     |                                   | Hypertrophy          | Minimal                 |
| * Bone               |                                   | Fibro-Osseous Lesion | Minimal                 |
| * Bone Marrow        |                                   | Hypercellularity     | Minimal                 |
| * Esophagus          |                                   | Inflammation         | Chronic Active, Minimal |
| * Islets, Pancreatic |                                   | Hyperplasia          | Mild                    |
| * Kidney             |                                   | Nephropathy          | Chronicprogr, Minimal   |
| * Liver              | Hepatocyte                        | Fatty Change         | Focal, Mild             |
|                      | [ Fatty Change TGLs = 1,2-12+13 ] |                      |                         |
| * Nose               | Olfactory Epi                     | Metaplasia           | Respiratory, Minimal    |
| * Pituitary Gland    |                                   | Cyst                 |                         |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 75

TRT#: 3

SEX: Male

DAY ON TEST: 613

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400524

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Bone Marrow             | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Liver                     | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                |                |         |
|--------------------------|----------------|----------------|---------|
| * Brain                  |                | Necrosis       | Minimal |
| * Epididymis             |                |                |         |
| Note: Hypospermia noted. |                |                |         |
| * Heart                  |                | Cardiomyopathy | Minimal |
| * Kidney                 |                | Mineral        | Minimal |
| * Spleen                 | Red Pulp       | Atrophy        | Marked  |
|                          | White Pulp     | Atrophy        | Marked  |
| Testis                   | Germinal Epith | Degeneration   | Minimal |
| * Thymus                 |                | Atrophy        | Marked  |

PRIMARY CAUSE OF DEATH

- Brain Necrosis

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 76

TRT#: 3

SEX: Male

DAY ON TEST: 547

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400525

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | Testis                     | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                      |   |                               |                       |
|----------------------|---|-------------------------------|-----------------------|
| * Islets, Pancreatic |   | Hyperplasia                   | Moderate              |
| * Kidney             |   | Nephropathy                   | Chronicprogr, Minimal |
|                      |   | Pigment                       | Minimal               |
|                      | Renal Tubule                                | Regeneration                  | Minimal               |
| * Liver              |   | Hepatocellular Carcinoma      |                       |
|                      | Hepatocyte                                  | Necrosis                      | Mild                  |
|                      | [ Hepatocellular Carcinoma TGLs = 1-4+11 ]  |                               |                       |
| * Lung               |   | Alveolar/Bronchiolar Adenoma  |                       |
|                      | [ Alveolar/Bronchiolar Adenoma TGLs = 2-4 ] | Hepatocellular Carcinoma      | Metastatic (Liver)    |
| * Nose               | Respirat Epith                              | Accumulation, Hyaline Droplet | Minimal               |
| * Spleen             |   | Extramedullary Hematopoiesis  | Mild                  |
| * Stomach, Glandular |   | Erosion                       | Minimal               |
| Tooth                |   | Dental Dysplasia              | Mild                  |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 77

TRT#: 3

SEX: Male

DAY ON TEST: 690

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400526

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| Testis                    | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

|                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mesenteric | * Mammary Gland |
|--------------------------|-----------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |   |                              |                       |
|----------------------|---|------------------------------|-----------------------|
| * Bone Marrow        |   | Hypercellularity             | Minimal               |
| * Heart              | Atrium                                      | Thrombus                     |                       |
| * Islets, Pancreatic |   | Hyperplasia                  | Mild                  |
| * Kidney             |   | Nephropathy                  | Chronicprogr, Minimal |
| * Liver              |   | Hepatocellular Adenoma       | Multiple              |
|                      | [ Hepatocellular Adenoma TGLs = 1,2-11+12 ] |                              |                       |
| * Lung               |   | Inflammation                 | Chronic, Mild         |
| * Spleen             |   | Extramedullary Hematopoiesis | Mild                  |
| Tooth                |   | Dental Dysplasia             | Moderate              |

PRIMARY CAUSE OF DEATH

- Heart Atrium Thrombus

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 78

TRT#: 3

SEX: Male

DAY ON TEST: 629

DOSE: 500 mg/L

DISP: Moribund Sacrifice

HISTO: 1400527

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Esophagus              | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Nose                      | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Trachea                  | * Urinary Bladder         |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                            |                           |                              |                       |
|----------------------------|---------------------------|------------------------------|-----------------------|
| * Bone Marrow              |                           | Hypercellularity             | Marked                |
| * Epididymis               |                           | Inflammation                 | Chronic Active, Mild  |
| Note: Hypospermia noted.   |                           |                              |                       |
| * Eye                      | Cornea                    | Inflammation                 | Acute, Mild           |
| * Islets, Pancreatic       |                           | Hyperplasia                  | Minimal               |
| * Kidney                   |                           | Nephropathy                  | Chronicprogr, Minimal |
|                            | Renal Tubule              | Regeneration                 | Mild                  |
| * Liver                    |                           | Hepatocellular Carcinoma     |                       |
|                            | Hepatocyte                | Necrosis                     | Minimal               |
| [ Hepatocellular Carcinoma | TGLs = 1,2,3-4+11+12+13 ] |                              |                       |
| * Lung                     |                           | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| * Lymph Node, Mesenteric   |                           | Extramedullary Hematopoiesis | Minimal               |
| * Preputial Gland          |                           | Inflammation                 | Suppurative, Marked   |
| * Spleen                   |                           | Extramedullary Hematopoiesis | Mild                  |
| Testis                     | Germinal Epith            | Degeneration                 | Mild                  |
|                            |                           | Inflammation                 | Suppurative, Minimal  |
| * Thymus                   |                           | Atrophy                      | Marked                |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 78

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 629

**DOSE:** 500 mg/L

**DISP:** Moribund Sacrifice

**HISTO:** 1400527

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

Follicle

Degeneration

Minimal

---

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 79

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400528

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                      |   |                        |                       |
|----------------------|---|------------------------|-----------------------|
| * Adrenal Cortex     |   | Hypertrophy            | Minimal               |
| * Bone Marrow        |   | Histiocytic Sarcoma    |                       |
| * Epididymis         |   | Granuloma Sperm        | Minimal               |
| * Islets, Pancreatic |   | Hyperplasia            | Minimal               |
| * Kidney             |   | Nephropathy            | Chronicprogr, Minimal |
| * Liver              |   | Clear Cell Focus       |                       |
|                      |   | Eosinophilic Focus     |                       |
|                      |   | Hepatocellular Adenoma | Multiple              |
|                      | [ Eosinophilic Focus TGLs = 3-14 ]  |                        |                       |
|                      | [ Hepatocellular Adenoma TGLs = 1,2,3-12+13+14 ]  |                        |                       |
| * Nose               |   | Polyp, Inflammatory    | Marked                |
|                      | Note: Polyp present in lumen, interpreted to be reactive and inflammatory due to odontoma on same side. |                        |                       |
| * Stomach, Glandular |   | Cyst                   |                       |
|                      |   | Mineral                | Minimal               |
| Testis               | Germinal Epith  | Degeneration           | Minimal               |
| * Thymus             |   | Atrophy                | Mild                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 79

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400528

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Odontoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 80

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400529

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    |
| * Nose                   | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                                  |                   |                                |                       |
|----------------------------------|-------------------|--------------------------------|-----------------------|
| * Islets, Pancreatic             |                   | Hyperplasia                    | Minimal               |
| * Kidney                         |                   | Nephropathy                    | Chronicprogr, Minimal |
|                                  |                   | Pigment                        | Minimal               |
|                                  | Renal Tubule      | Regeneration                   | Minimal               |
| * Liver                          |                   | Angiectasis                    | Mild                  |
|                                  |                   | Extramedullary Hematopoiesis   | Minimal               |
|                                  |                   | Hepatocellular Adenoma         | Multiple              |
|                                  |                   | Hepatocellular Carcinoma       |                       |
| Note: Part of mass on slide 04.  |                   |                                |                       |
| [ Hepatocellular Adenoma         | TGLs = 3,4-12+5 ] |                                |                       |
| [ Hepatocellular Carcinoma       | TGLs = 5-13 ]     |                                |                       |
| * Lung                           |                   | Alveolar/Bronchiolar Carcinoma |                       |
|                                  |                   | Hepatocellular Carcinoma       | Metastatic (Liver)    |
| [ Alveolar/Bronchiolar Carcinoma | TGLs = 1-11 ]     |                                |                       |
| [ Hepatocellular Carcinoma       | TGLs = 2-14 ]     |                                |                       |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 80

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400529

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Preputial Gland

Inflammation

Suppurative, Moderate

\* Spleen

Extramedullary Hematopoiesis

Minimal

Testis

Germinal Epith

Degeneration

Minimal

---

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 81

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400530

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Brain                   | * Epididymis                |
| * Esophagus              | * Eye                      | * Gallbladder             | * Harderian Gland           |
| * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |  |              |                                |                       |
|--|--------------|--------------------------------|-----------------------|
| * Adrenal Cortex                               |              | Hypertrophy                    | Minimal               |
| * Bone   |              | Fibro-Osseous Lesion           | Minimal               |
| * Bone Marrow                                  |              | Hypercellularity               | Mild                  |
| * Intestine Large, Cecum                       |              | Pigment                        | Minimal               |
| * Islets, Pancreatic                           |              | Hyperplasia                    | Minimal               |
| * Kidney                                       |              | Mineral                        | Minimal               |
|  | Renal Tubule | Nephropathy                    | Chronicprogr, Minimal |
| * Liver  |              | Regeneration                   | Minimal               |
|  |              | Cholangiocarcinoma             |                       |
|  |              | Clear Cell Focus               |                       |
|  |              | Infiltration Cellular          | Mixed Cell, Minimal   |
| * Lung   |              | Alveolar/Bronchiolar Carcinoma |                       |
| Note: Granulomatous response to tumor noted.   |              |                                |                       |
| [ Alveolar/Bronchiolar Carcinoma TGLs = 2-12 ] |              |                                |                       |
| Lymph Node                                     |              | Hyperplasia                    | Lymphocyte, Moderate  |
| Note: Inguinal node affected.                  |              |                                |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 81

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400530

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|                          |        |                     |                     |
|--------------------------|--------|---------------------|---------------------|
| * Lymph Node, Mesenteric |        | Erythrophagocytosis | Minimal             |
| * Preputial Gland        |        | Cyst                |                     |
|                          |        | Inflammation        | Suppurative, Marked |
| [ Cyst TGLs = 1-9 ]      |        |                     |                     |
| * Thyroid Gland          | C Cell | Hyperplasia         | Minimal             |
| Tooth                    |        | Dental Dysplasia    | Minimal             |

---





**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 82

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400531

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Odontoma

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 83

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400532

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |  |                                |                       |
|---|--|--------------------------------|-----------------------|
| * Bone Marrow                                 |  | Hypercellularity               | Minimal               |
| * Intestine Large, Cecum                      |  | Pigment                        | Minimal               |
| * Islets, Pancreatic                          |  | Hyperplasia                    | Moderate              |
| * Kidney                                      |  | Nephropathy                    | Chronicprogr, Minimal |
|   |  | Pigment                        | Minimal               |
|   | Renal Tubule                                   | Regeneration                   | Minimal               |
| * Liver                                       |  | Eosinophilic Focus             |                       |
|   |  | Hepatocellular Adenoma         |                       |
|   |  | Mixed Cell Focus               |                       |
|   | [ Hepatocellular Adenoma TGLs = 2-5 ]          |                                |                       |
| * Lung  |  | Alveolar/Bronchiolar Carcinoma | Multiple              |
|   | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-11 ] |                                |                       |
| Lymph Node                                    |  | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung)     |
| Note: Tracheal-bronchial lymph node affected. |  |                                |                       |
| * Preputial Gland                             |  | Inflammation                   | Suppurative, Marked   |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 83

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400532

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus  
Tooth

Alveolar/Bronchiolar Carcinoma  
Dental Dysplasia

Metastatic (Lung)  
Moderate

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 84

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400533

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                      |              |                        |                       |
|----------------------|--------------|------------------------|-----------------------|
| * Bone Marrow        |              | Hypercellularity       | Minimal               |
| * Islets, Pancreatic |              | Hyperplasia            | Minimal               |
| * Kidney             | Renal Tubule | Cyst                   |                       |
|                      |              | Mineral                | Minimal               |
|                      |              | Nephropathy            | Chronicprogr, Minimal |
|                      |              | Pigment                | Minimal               |
|                      | Renal Tubule | Regeneration           | Minimal               |
| * Liver              |              | Clear Cell Focus       |                       |
|                      |              | Eosinophilic Focus     |                       |
|                      | Hepatocyte   | Fatty Change           | Focal, Moderate       |
|                      |              | Hepatocellular Adenoma | Multiple              |
|                      |              | Infiltration Cellular  | Mixed Cell, Minimal   |

[ Clear Cell Focus TGLs = 2,3-12+14+15 ]

[ Eosinophilic Focus TGLs = 3-13 ]

[ Hepatocellular Adenoma TGLs = 1,4,5-11+14+15 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 84

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400533

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|                   |                |                  |                     |
|-------------------|----------------|------------------|---------------------|
| * Preputial Gland |                | Cyst             |                     |
|                   |                | Inflammation     | Suppurative, Marked |
| Testis            | Germinal Epith | Degeneration     | Minimal             |
| * Thyroid Gland   | Follicle       | Degeneration     | Minimal             |
| Tooth             |                | Dental Dysplasia | Minimal             |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 85

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400534

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| Blood Vessel              | * Bone                      | * Brain                  | * Epididymis               |
| * Esophagus               | * Gallbladder               | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                                |                  |                       |
|--------------------------|--------------------------------|------------------|-----------------------|
| * Adrenal Cortex         |                                | Hypertrophy      | Minimal               |
| * Adrenal Medulla        |                                | Hyperplasia      | Minimal               |
| * Bone Marrow            |                                | Hypercellularity | Minimal               |
| * Eye                    |                                | Phthisis Bulbi   |                       |
|                          | [ Phthisis Bulbi TGLs = 1-12 ] |                  |                       |
| * Harderian Gland        |                                | Carcinoma        |                       |
|                          | [ Carcinoma TGLs = 2-13 ]      |                  |                       |
| * Intestine Large, Cecum |                                | Pigment          | Minimal               |
| * Kidney                 |                                | Nephropathy      | Chronicprogr, Minimal |
|                          |                                | Pigment          | Minimal               |
|                          | Renal Tubule                   | Regeneration     | Minimal               |
| * Liver                  |                                | Clear Cell Focus |                       |
| * Lung                   | Alveolus                       | Pigment          | Mild                  |
| * Pancreas               | Acinus                         | Atrophy          | Minimal               |
| * Stomach, Forestomach   | Epithelium                     | Hyperplasia      | Minimal               |
| * Stomach, Glandular     |                                | Cyst             |                       |
| Testis                   | Germinal Epith                 | Degeneration     | Minimal               |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 85

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400534

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Mild

---



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 86

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400535

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                                 |                |   |                       |
|---------------------------------|----------------|---|-----------------------|
| * Adrenal Cortex                |                | Hypertrophy                                     | Minimal               |
| * Islets, Pancreatic            |                | Hyperplasia                                     | Moderate              |
| * Kidney                        | Renal Tubule   | Cyst  |                       |
|                                 |                | Nephropathy                                     | Chronicprogr, Minimal |
|                                 |                | Pigment   | Minimal               |
|                                 | Renal Tubule   | Regeneration                                    | Minimal               |
| * Liver                         |                | Clear Cell Focus                                |                       |
|                                 |                | Eosinophilic Focus                              |                       |
|                                 |                | Hepatocellular Adenoma                          | Multiple              |
| Note: Clear foci on most lobes. |                |   |                       |
|                                 |                | [ Clear Cell Focus TGLs = 3-12 ]                |                       |
|                                 |                | [ Hepatocellular Adenoma TGLs = 1,2,4-11+4+13 ] |                       |
| * Nose                          | Respirat Epith | Hyperplasia                                     | Minimal               |
|                                 | Olfactory Epi  | Metaplasia                                      | Respiratory, Minimal  |
| Tooth                           |                | Dental Dysplasia                                | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 87

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400536

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                      |  |                        |                       |
|----------------------|--|------------------------|-----------------------|
| * Adrenal Cortex     | Subcapsular                            | Hyperplasia            | Mild                  |
|                      |  | Hypertrophy            | Minimal               |
| * Bone Marrow        |  | Hypercellularity       | Minimal               |
| * Islets, Pancreatic |  | Hyperplasia            | Moderate              |
| * Kidney             |  | Mineral                | Minimal               |
|                      |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver              |  | Hepatocellular Adenoma |                       |
|                      |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|                      | [ Hepatocellular Adenoma TGLs = 2-13 ] |                        |                       |
| * Nose               | Olfactory Epi                          | Metaplasia             | Respiratory, Minimal  |
| * Preputial Gland    |  | Cyst                   |                       |
|                      |  | Inflammation           | Suppurative, Marked   |
|                      | [ Cyst TGLs = 1-12 ]                   |                        |                       |
| Tooth                |  | Dental Dysplasia       | Marked                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 88

TRT#: 3

SEX: Male

DAY ON TEST: 660

DOSE: 500 mg/L

DISP: Moribund Sacrifice

HISTO: 1400537

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |   |   |                       |
|----------------------|---|---|-----------------------|
| * Adrenal Cortex     |   | Accessory Adrenal Cortical Nodule   |                       |
|                      | Subcapsular   | Hyperplasia   | Mild                  |
| * Bone Marrow        |   | Hemangiosarcoma   |                       |
| * Islets, Pancreatic |   | Hyperplasia   | Minimal               |
| * Kidney             |   | Nephropathy   | Chronicprogr, Minimal |
|                      | Renal Tubule  | Regeneration  | Minimal               |
| * Liver              |   | Hemangiosarcoma   |                       |
|                      |   | Hepatocellular Carcinoma  |                       |
|                      | [ Hemangiosarcoma TGLs = 1,2,3,4,5-11+12+13+14+15 ] |   |                       |
| * Lung               |   | Hemangiosarcoma   |                       |
|                      |   | Hepatocellular Carcinoma  | Metastatic (Liver)    |
|                      |   | Note: Focus of "metastatic hepatocytes" also noted in spleen; these are normal hepatocytes dissected by hemangiosarc, and freed into circulation. |                       |
| * Pituitary Gland    |   | Cyst  |                       |
| * Skin               | Subcut Tiss   | Edema   | Moderate              |
|                      | [ Edema TGLs = 7-9I ]                               |   |                       |
| * Spleen             |   | Hemangiosarcoma   |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 88

TRT#: 3

SEX: Male

DAY ON TEST: 660

DOSE: 500 mg/L

DISP: Moribund Sacrifice

HISTO: 1400537

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ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Hemangiosarcoma TGLs = 6-5 ]

Testis

Germinal Epith

Degeneration

Minimal

\* Thymus

Atrophy

Moderate

---

PRIMARY CAUSE OF DEATH - Spleen Hemangiosarcoma

CONTRIBUTORY CAUSE OF DEATH - Liver Hemangiosarcoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 89

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400538

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Gallbladder               | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Preputial Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |              |                              |                              |
|--|--------------|------------------------------|------------------------------|
| * Bone Marrow                                      |              | Hypercellularity             | Mild                         |
| * Harderian Gland                                  |              | Carcinoma                    |                              |
| [ Carcinoma TGLs = 4-14 ]                          |              |                              |                              |
| * Intestine Large, Cecum                           |              | Pigment                      | Minimal                      |
| * Islets, Pancreatic                               |              | Hyperplasia                  | Mild                         |
| * Kidney   | Renal Tubule | Hyperplasia                  | Minimal                      |
|  |              | Nephropathy                  | Chronicprogr, Minimal        |
| * Liver  |              | Basophilic Focus             |                              |
|  |              | Eosinophilic Focus           |                              |
|  |              | Hepatocellular Adenoma       | Multiple                     |
|  |              | Infiltration Cellular        | Mixed Cell, Minimal          |
|  |              | Mixed Cell Focus             |                              |
|  | Hepatocyte   | Necrosis                     | Minimal                      |
| [ Hepatocellular Adenoma TGLs = 1,2,3-11+4+12+13 ] |              |                              |                              |
| * Lung   |              | Alveolar/Bronchiolar Adenoma |                              |
|  |              | Carcinoma                    | Metastatic (Harderian Gland) |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 89

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400538

ORGAN AND ACCOUNTABLE SITE STATUS

|                             |                |              |                      |
|-----------------------------|----------------|--------------|----------------------|
| * Nose                      | Alveolar Epith | Hyperplasia  | Minimal              |
| * Skin                      | Olfactory Epi  | Metaplasia   | Respiratory, Minimal |
|                             | Subcut Tiss    | Edema        | Moderate             |
|                             | Epidermis      | Hyperplasia  | Mild                 |
|                             | Subcut Tiss    | Inflammation | Chronic Active, Mild |
| [ Hyperplasia TGLs = 5-15 ] |                |              |                      |
| Testis                      | Germinal Epith | Degeneration | Minimal              |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 90

TRT#: 3

SEX: Male

DAY ON TEST: 723

DOSE: 500 mg/L

DISP: Moribund Sacrifice

HISTO: 1400539

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone Marrow             | * Brain                     |
| * Esophagus              | * Eye                      | * Gallbladder             | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Mammary Gland          | * Nose                     | * Pancreas                | * Pituitary Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Trachea                 | * Urinary Bladder           |

**MISSING**

\* Parathyroid Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Adrenal Cortex         |  | Extramedullary Hematopoiesis | Minimal               |
| * Bone                   |  | Fibro-Osseous Lesion         | Minimal               |
| * Epididymis             |  | Atrophy                      | Mild                  |
|                          | [ Atrophy TGLs = 3-12 ]                  |                              |                       |
| * Heart                  |  | Cardiomyopathy               | Minimal               |
| * Kidney                 | Renal Tubule                             | Cyst                         |                       |
|                          |  | Nephropathy                  | Chronicprogr, Minimal |
|                          |  | Pigment                      | Minimal               |
|                          | Renal Tubule                             | Regeneration                 | Mild                  |
| * Liver                  |  | Hepatocellular Carcinoma     |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                              |                       |
| * Lung                   |  | Alveolar/Bronchiolar Adenoma |                       |
| * Lymph Node, Mesenteric |  | Atrophy                      | Moderate              |
|                          |  | Hemorrhage                   | Mild                  |
| * Preputial Gland        |  | Inflammation                 | Suppurative, Marked   |
| * Spleen                 |  | Extramedullary Hematopoiesis | Minimal               |
| Testis                   | Germinal Epith                           | Degeneration                 | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 90

TRT#: 3

SEX: Male

DAY ON TEST: 723

DOSE: 500 mg/L

DISP: Moribund Sacrifice

HISTO: 1400539

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Degeneration TGLs = 2-12 ]

\* Thymus

Atrophy

Moderate

\* Thyroid Gland

Follicle

Degeneration

Minimal

---

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

---



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 91

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400540

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Bone Marrow            | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

- |                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mesenteric | * Mammary Gland |
|--------------------------|-----------------|

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |  |              |                                |                       |
|--|--------------|--------------------------------|-----------------------|
| * Adrenal Cortex   |              | Hypertrophy                    | Minimal               |
| Blood Vessel   |              | Hepatocellular Carcinoma       | Metastatic (Liver)    |
| Note: Met to periaortic tissue.  |              |                                |                       |
| * Islets, Pancreatic   |              | Hyperplasia                    | Minimal               |
| * Kidney   |              | Nephropathy                    | Chronicprogr, Minimal |
|  |              | Pigment                        | Minimal               |
|  | Renal Tubule | Regeneration                   | Mild                  |
| * Liver  |              | Eosinophilic Focus             |                       |
|  |              | Hepatocellular Carcinoma       |                       |
| Note: Several foci of normochromic but small hepatocytes noted.<br>[ Hepatocellular Carcinoma TGLs = 1-12 ]  |              |                                |                       |
| * Lung   |              | Alveolar/Bronchiolar Carcinoma |                       |
|  |              | Hepatocellular Carcinoma       | Metastatic (Liver)    |
| Note: Lung lobe appears to have two collision masses contributing to TGL; a primary AB carc and a large hepatocarc.<br>Note: Hepatocarc appears to have reached lung lobe by invasion through the diaphragm.<br>[ Alveolar/Bronchiolar Carcinoma TGLs = 2-11 ] |              |                                |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 91

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400540

ORGAN AND ACCOUNTABLE SITE STATUS

|  |                              |                          |
|--|------------------------------|--------------------------|
| [ Hepatocellular Carcinoma TGLs = 2-11 ]                               |                              |                          |
| Lymph Node   | Hepatocellular Carcinoma     | Metastatic (Liver)       |
| Note: Met to mediastinal node.   |                              |                          |
| Mesentery  | Fat                          | Necrosis                 |
| [ Necrosis TGLs = 5-15 ]   |                              | Marked                   |
| * Nose   | Olfactory Epi                | Metaplasia               |
| Skeletal Muscle  | Hepatocellular Carcinoma     | Respiratory, Minimal     |
| Note: Diaphragm and thoracic muscle affected.                          |                              | Metastatic (Liver)       |
| [ Hepatocellular Carcinoma TGLs = 3,4-13+14 ]                          |                              |                          |
| * Spleen   | Extramedullary Hematopoiesis | Minimal                  |
| Testis   | Degeneration                 | Mild                     |
| * Thymus   | Inflammation                 | Chronic Active, Moderate |
| Note: Macrophage and serosal cell reaction to thoracic tumor(s) noted. |                              |                          |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 92

TRT#: 3

SEX: Male

DAY ON TEST: 496

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400541

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * Bone                      | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Liver                     | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

Blood Vessel Polyarteritis Nodosa Marked

Note: Other blood vessels (not specifically coded) also affected with chronic-active arteritis.

\* Bone Marrow Hypercellularity Marked

\* Brain Artery Amyloid Marked

Polyarteritis Nodosa Marked

Note: Massive arteritis of arteries in ventricle and ventral artery (which was interpreted to be pituitary at necropsy). Lesion therefore coded herein as TGL 1-11.

[ Polyarteritis Nodosa TGLs = 1-11 ]

\* Epididymis Spermatocele Marked

\* Heart Polyarteritis Nodosa Marked

\* Kidney Glomerulus Amyloid Mild

Nephropathy Chronicprogr, Minimal

Polyarteritis Nodosa Marked

\* Lung Alveolar/Bronchiolar Adenoma

Mesentery Polyarteritis Nodosa Marked

Note: Multiple mesenteric arteries affected; however gross notation regarding mesenteric lymph node is (microscopically) actually mesenteric artery, hence TGL 2-12.

[ Polyarteritis Nodosa TGLs = 2-12 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 92

TRT#: 3

SEX: Male

DAY ON TEST: 496

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400541

ORGAN AND ACCOUNTABLE SITE STATUS

|                      |                |                              |         |
|----------------------|----------------|------------------------------|---------|
| * Spleen             |                | Amyloid                      | Marked  |
|                      |                | Extramedullary Hematopoiesis | Minimal |
| * Stomach, Glandular |                | Polyarteritis Nodosa         | Marked  |
| Testis               | Germinal Epith | Degeneration                 | Minimal |
| * Thymus             |                | Atrophy                      | Marked  |
|                      |                | Polyarteritis Nodosa         | Marked  |
| Tooth                |                | Dental Dysplasia             | Minimal |

PRIMARY CAUSE OF DEATH - Brain Polyarteritis Nodosa

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 93

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400542

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                                    |                              |                       |
|--------------------------|------------------------------------|------------------------------|-----------------------|
| * Adrenal Cortex         |                                    | Hypertrophy                  | Minimal               |
| * Bone Marrow            |                                    | Hypercellularity             | Minimal               |
| * Intestine Large, Cecum |                                    | Pigment                      | Minimal               |
| * Islets, Pancreatic     |                                    | Hyperplasia                  | Minimal               |
| * Kidney                 |                                    | Nephropathy                  | Chronicprogr, Minimal |
|                          | Renal Tubule                       | Regeneration                 | Minimal               |
| * Liver                  |                                    | Clear Cell Focus             |                       |
|                          |                                    | Eosinophilic Focus           |                       |
|                          | [ Clear Cell Focus TGLs = 1-11 ]   |                              |                       |
|                          | [ Eosinophilic Focus TGLs = 2-12 ] |                              |                       |
| * Lung                   |                                    | Alveolar/Bronchiolar Adenoma |                       |
| * Preputial Gland        |                                    | Inflammation                 | Suppurative, Moderate |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 94

TRT#: 3

SEX: Male

DAY ON TEST: 711

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400543

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Brain                     | * Epididymis             | * Esophagus                |
| * Eye                     | * Gallbladder               | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |  |               |                          |                       |
|--|---------------|--------------------------|-----------------------|
| * Adrenal Cortex   |               | Hypertrophy              | Minimal               |
| Blood Vessel   | Aorta         | Hepatocholangiocarcinoma | Metastatic (Liver)    |
| * Bone   |               | Hepatocholangiocarcinoma | Metastatic (Liver)    |
| Note: Rib section has metastatic tumor from liver; femur bone is within normal limits. |               |                          |                       |
| * Bone Marrow  |               | Hypercellularity         | Mild                  |
| * Harderian Gland  |               | Hyperplasia              | Mild                  |
| * Heart  |               | Hepatocholangiocarcinoma | Metastatic (Liver)    |
| * Islets, Pancreatic   |               | Hyperplasia              | Moderate              |
| * Kidney   |               | Mineral                  | Minimal               |
|  |               | Nephropathy              | Chronicprogr, Minimal |
| * Liver  |               | Hepatocholangiocarcinoma |                       |
| [ Hepatocholangiocarcinoma   | TGLs = 1-11 ] |                          |                       |
| * Lung   |               | Hepatocholangiocarcinoma | Metastatic (Liver)    |
|  | Serosa        | Hepatocholangiocarcinoma | Metastatic (Liver)    |
| [ Hepatocholangiocarcinoma   | TGLs = 3-4 ]  |                          |                       |
| [ Hepatocholangiocarcinoma   | TGLs = 2-12 ] |                          |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 94

TRT#: 3

SEX: Male

DAY ON TEST: 711

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400543

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node

Hepatocholangiocarcinoma

Metastatic (Liver)

Note: Mediastinal lymph node affected.

\* Nose

Olfactory Epi

Metaplasia

Respiratory, Minimal

Tooth

Dental Dysplasia

Marked

PRIMARY CAUSE OF DEATH

- Liver Hepatocholangiocarcinoma

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 95

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400544

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Pancreas               | * Parathyroid Gland        | * Preputial Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |  |                        |                       |
|--------------------------|--|------------------------|-----------------------|
| * Adrenal Cortex         |  | Hypertrophy            | Marked                |
| * Bone Marrow            |  | Hypercellularity       | Mild                  |
| * Harderian Gland        |  | Adenoma                |                       |
| * Islets, Pancreatic     |  | Hyperplasia            | Marked                |
| * Kidney                 |  | Mineral                | Minimal               |
|                          |  | Nephropathy            | Chronicprogr, Minimal |
|                          |  | Pigment                | Minimal               |
|                          | Renal Tubule                           | Regeneration           | Minimal               |
| * Liver                  |  | Clear Cell Focus       |                       |
|                          |  | Eosinophilic Focus     |                       |
|                          |  | Hepatocellular Adenoma |                       |
|                          | [ Hepatocellular Adenoma TGLs = 1-12 ] |                        |                       |
| * Lymph Node, Mesenteric |  | Infiltration Cellular  | Histiocyte, Marked    |
| * Nose                   |  | Foreign Body           |                       |
|                          |  | Inflammation           | Suppurative, Minimal  |
| * Pituitary Gland        | Pars Distalis                          | Hyperplasia            | Mild                  |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 95

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400544

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Tooth

Dental Dysplasia

Moderate

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Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 96

TRT#: 3

SEX: Male

DAY ON TEST: 571

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400545

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Adrenal Cortex         |  | Hyperplasia                  | Minimal               |
| * Bone Marrow            |  | Hemangiosarcoma              |                       |
| * Kidney                 |  | Nephropathy                  | Chronicprogr, Minimal |
|                          | Renal Tubule                             | Regeneration                 | Minimal               |
| * Liver                  |  | Hepatocellular Carcinoma     |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 3-12 ] |                              |                       |
| * Lung                   |  | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| * Lymph Node, Mesenteric |  | Extramedullary Hematopoiesis | Minimal               |
| * Preputial GI           |  |                              |                       |
|                          | Note: Only one preputial presented.      |                              |                       |
| * Spleen                 |  | Extramedullary Hematopoiesis | Mild                  |
|                          |  | Hemangiosarcoma              |                       |
|                          | [ Hemangiosarcoma TGLs = 1-11 ]          |                              |                       |
| * Thymus                 |  | Atrophy                      | Moderate              |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 97

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400546

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Nose                   | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Glandular       | * Trachea                 | * Urinary Bladder           |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                        |                       |
|--------------------------|--|------------------------|-----------------------|
| * Islets, Pancreatic     |  | Hyperplasia            | Mild                  |
| * Kidney                 |  | Mineral                | Minimal               |
|                          |  | Nephropathy            | Chronicprogr, Minimal |
|                          |  | Pigment                | Minimal               |
|                          | Renal Tubule                           | Regeneration           | Mild                  |
| * Liver                  |  | Basophilic Focus       |                       |
|                          |  | Eosinophilic Focus     |                       |
|                          |  | Hepatocellular Adenoma |                       |
|                          | [ Hepatocellular Adenoma TGLs = 1-11 ] |                        |                       |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant     |                       |
|                          | [ Lymphoma Malignant TGLs = 2-12 ]     |                        |                       |
| * Preputial Gland        |  | Cyst                   |                       |
| * Stomach, Forestomach   |  | Cyst                   |                       |
| Testis                   | Germinal Epith                         | Degeneration           | Minimal               |
| * Thyroid Gland          | Follicle                               | Degeneration           | Mild                  |
| Tooth                    |  | Dental Dysplasia       | Marked                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 98

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400547

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Adrenal Cortex         |  | Hypertrophy                  | Mild                  |
| * Bone Marrow            |  | Hypercellularity             | Mild                  |
| * Epididymis             |  | Hemangioma                   |                       |
| * Kidney                 |  | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                  |  | Eosinophilic Focus           |                       |
|                          |  | Hepatocellular Adenoma       |                       |
|                          | [ Hepatocellular Adenoma TGLs = 2-11 ] |                              |                       |
| * Lymph Node, Mesenteric |  | Extramedullary Hematopoiesis | Mild                  |
| * Nose                   | Olfactory Epi                          | Metaplasia                   | Respiratory, Minimal  |
| * Preputial Gland        |  | Cyst                         |                       |
|                          |  | Inflammation                 | Suppurative, Marked   |
|                          | [ Cyst TGLs = 1-9+12 ]                 |                              |                       |
| Tooth                    |  | Dental Dysplasia             | Marked                |
|                          |  | Inflammation                 | Suppurative, Moderate |

Note: linflammation with frank abscess noted.

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 99

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 709

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400548

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Nose                   |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                                 |                    |                              |                       |
|---------------------------------|--------------------|------------------------------|-----------------------|
| * Bone Marrow                   |                    | Hypercellularity             | Moderate              |
| * Kidney                        |                    | Nephropathy                  | Chronicprogr, Minimal |
| Note: Heterotopic bone present. |                    |                              |                       |
| * Liver                         |                    | Basophilic Focus             |                       |
|                                 |                    | Hepatocellular Carcinoma     | Multiple              |
| [ Hepatocellular Carcinoma      | TGLs = 1,2-11+12 ] |                              |                       |
| * Lung                          |                    | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| [ Hepatocellular Carcinoma      | TGLs = 3-13 ]      |                              |                       |
| * Lymph Node, Mesenteric        |                    | Atrophy                      | Moderate              |
|                                 |                    | Extramedullary Hematopoiesis | Minimal               |
|                                 |                    | Hemorrhage                   | Moderate              |
| * Spleen                        |                    | Extramedullary Hematopoiesis | Mild                  |
| * Thymus                        |                    | Atrophy                      | Marked                |

**PRIMARY CAUSE OF DEATH** - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 100

TRT#: 3

SEX: Male

DAY ON TEST: 680

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400549

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Epididymis              |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Liver                   |
| * Lung                      | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**INSUFFICIENT TISSUE**

\* Thymus

**OBSERVATIONS**

|   |                              |                          |
|---|------------------------------|--------------------------|
| * Adrenal Cortex  | Hypertrophy                  | Minimal                  |
| * Bone Marrow   | Hypercellularity             | Moderate                 |
| * Brain   | Necrosis                     | Mild                     |
| Note: Frontal areas of cerebrum affected, cause unidentified. |                              |                          |
| * Islets, Pancreatic  | Hyperplasia                  | Minimal                  |
| * Kidney  | Nephropathy                  | Chronicprogr, Minimal    |
| * Lymph Node, Mandibular                                      | Hyperplasia                  | Plasma Cell, Minimal     |
|   | Infiltration Cellular        | Neutrophil, Minimal      |
| * Lymph Node, Mesenteric                                      | Extramedullary Hematopoiesis | Minimal                  |
| * Preputial Gland   | Cyst                         |                          |
|   | Inflammation                 | Chronic Active, Moderate |
| Tooth   | Dental Dysplasia             | Mild                     |

PRIMARY CAUSE OF DEATH

- Brain Necrosis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 101

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400550

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                           |                             |                          |
|--------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla        | Blood Vessel              | * Brain                     | * Epididymis             |
| * Esophagus              | * Eye                     | * Gallbladder               | * Harderian Gland        |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Islets, Pancreatic     | * Liver                   | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland        | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland          | * Trachea                 | * Urinary Bladder           |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |                      |                       |
|---|----------------------|-----------------------|
| * Adrenal Cortex  | Angiectasis          | Marked                |
| Note: Large cystic structure at junction of cortex and medulla; unclear where to site this lesion; no erythrocytes present within cyst. |                      |                       |
| * Bone  | Fibro-Osseous Lesion | Minimal               |
| * Bone Marrow   | Hypercellularity     | Moderate              |
| * Epididymis  |                      |                       |
| Note: Epididymides contain degenerate cells from testes.  |                      |                       |
| * Heart   | Cardiomyopathy       | Minimal               |
| * Intestine Large, Cecum  | Pigment              | Minimal               |
| * Intestine Small, Jejunum  | Carcinoma            |                       |
| Note: TGL-3 (slide 14) has insignificant dilation of the lumen (not diagnosed). Other jejunal section (slide 6) has no dilation.        |                      |                       |
| Note: Suspect "dilation" noted grossly was related to very minor obstruction and gas formation upstream from nodular carcinoma.         |                      |                       |
| [ Carcinoma TGLs = 2-13 ]   |                      |                       |
| * Kidney  | Cyst                 |                       |
|   | Infarct              | Minimal               |
|   | Mineral              | Minimal               |
|   | Nephropathy          | Chronicprogr, Minimal |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 101

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400550

ORGAN AND ACCOUNTABLE SITE STATUS

|   |                |                                      |                                    |
|---|----------------|--------------------------------------|------------------------------------|
| * Preputial Gland   | Renal Tubule   | Regeneration<br>Cyst<br>Inflammation | Minimal<br><br>Suppurative, Marked |
| Note: Inflammatory infiltrate extends into tissues of the prostate section.<br>[ Cyst TGLs = 1-12 ] |                |                                      |                                    |
| * Spleen  |                | Extramedullary Hematopoiesis         | Minimal                            |
| Testis  | Germinal Epith | Atrophy                              | Mild                               |
|   | Germinal Epith | Degeneration                         | Minimal                            |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 102

TRT#: 5

SEX: Male

DAY ON TEST: 621

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400551

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | Brain Trigeminal Ganglion  |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Liver                     | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | Peripheral Nerve           |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | Spinal Cord                 | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |                |                  |                       |
|---|----------------|------------------|-----------------------|
| * Adrenal Cortex  |                | Hyperplasia      | Minimal               |
| * Bone Marrow   |                | Hypercellularity | Moderate              |
| * Brain   |                | Necrosis         | Minimal               |
| Note: Acute necrosis of many neurons confined to cingulate/frontal cortex, consistent with clinical signs.  |                |                  |                       |
| Note: Cause of neuronal necrosis not found; however chronic arteritis noted in renal arteries suggest the potential for similar but undetected brain arteritis. |                |                  |                       |
| * Esophagus   |                |                  |                       |
| Note: Esophagus between lung lobes used to code esophagus as "normal, present."   |                |                  |                       |
| * Kidney  | Artery         | Inflammation     | Chronic Active, Mild  |
|   |                | Nephropathy      | Chronicprogr, Minimal |
| * Nose  | Respirat Epith | Hyperplasia      | Minimal               |
| * Preputial Gland   |                | Cyst             |                       |
| Testis  | Germinal Epith | Degeneration     | Mild                  |
| Tooth   |                | Dental Dysplasia | Mild                  |

PRIMARY CAUSE OF DEATH - Brain Necrosis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 103

TRT#: 5

SEX: Male

DAY ON TEST: 698

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400552

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Brain                    | * Esophagus               | * Eye                       |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Nose                    | * Pituitary Gland           |
| * Skin                   | * Stomach, Forestomach     | Testis                    | * Thyroid Gland             |
| * Trachea                |                            |                           |                             |

**MISSING**

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |                                    |                              |                       |
|---|------------------------------------|------------------------------|-----------------------|
| * Adrenal Cortex  |                                    | Lymphoma Malignant           |                       |
| Blood Vessel  |                                    | Lymphoma Malignant           |                       |
| Note: Lymphoma in thoracic cavity (from thymus, mediastinal lymph nodes) and surrounds aorta. |                                    |                              |                       |
| * Bone  |                                    | Fibro-Osseous Lesion         | Minimal               |
| * Bone Marrow   |                                    | Lymphoma Malignant           |                       |
| * Epididymis  |                                    | Lymphoma Malignant           |                       |
| * Eye   |                                    |                              |                       |
| Note: Lymphoma in periocular tissues and surrounding optic nerve.                             |                                    |                              |                       |
| * Gallbladder   |                                    | Lymphoma Malignant           |                       |
| * Harderian Gland   |                                    | Lymphoma Malignant           |                       |
|   | [ Lymphoma Malignant TGLs = 6-16 ] |                              |                       |
| * Heart   |                                    | Lymphoma Malignant           |                       |
| * Islets, Pancreatic  |                                    | Lymphoma Malignant           |                       |
| * Kidney  |                                    | Lymphoma Malignant           |                       |
|   |                                    | Nephropathy                  | Chronicprogr, Minimal |
| * Liver   |                                    | Extramedullary Hematopoiesis | Minimal               |
|   |                                    | Lymphoma Malignant           |                       |
|   | Hepatocyte                         | Necrosis                     | Minimal               |
| * Lung  |                                    | Alveolar/Bronchiolar Adenoma | Multiple              |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 103

TRT#: 5

SEX: Male

DAY ON TEST: 698

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400552

ORGAN AND ACCOUNTABLE SITE STATUS

Alveolar Epith

Hyperplasia

Moderate

Lymphoma Malignant

Note: Heterotopic bone noted.

[ Alveolar/Bronchiolar Adenoma TGLs = 3,4-13+14 ]

\* Lymph Node, Mandibular

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 1-11 ]

\* Lymph Node, Mesenteric

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 2-12 ]

Mesentery

Lymphoma Malignant

\* Pancreas

Lymphoma Malignant

Note: Pancreas also replaced by lymphoma on slide 6; pancreatic lymph nodes affected on slide 15 as part of TGL-5 but not diagnosed separately.

[ Lymphoma Malignant TGLs = 5-15 ]

\* Preputial Gland

Lymphoma Malignant

\* Prostate

Lymphoma Malignant

\* Salivary Glands

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 1-11 ]

\* Seminal Vesicle

Lymphoma Malignant

\* Spleen

Lymphoma Malignant

\* Stomach, Glandular

Lymphoma Malignant

\* Thymus

Lymphoma Malignant

Tooth

Dental Dysplasia

Moderate

\* Urinary Bladder

Lymphoma Malignant

PRIMARY CAUSE OF DEATH

- Lymph Node, Mesenteric Lymphoma Malignant

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 104

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400553

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | Testis                   | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

|                 |                   |
|-----------------|-------------------|
| * Mammary Gland | * Pituitary Gland |
|-----------------|-------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |              |                    |                    |
|--------------------------|--------------|--------------------|--------------------|
| * Adrenal Cortex         |              | Hypertrophy        | Minimal            |
| * Bone Marrow            |              | Hypercellularity   | Minimal            |
| * Intestine Large, Cecum |              | Pigment            | Minimal            |
| * Islets, Pancreatic     |              | Hyperplasia        | Minimal            |
| * Kidney                 |              | Nephropathy        | Chronicprogr, Mild |
|                          |              | Pigment            | Minimal            |
|                          | Renal Tubule | Regeneration       | Minimal            |
| * Liver                  |              | Basophilic Focus   |                    |
|                          |              | Clear Cell Focus   |                    |
|                          |              | Eosinophilic Focus |                    |

Note: Many foci (mostly eosinophilic) on all liver sections.

[ Clear Cell Focus TGLs = 2-12 ]

|           |     |          |          |
|-----------|-----|----------|----------|
| Mesentery | Fat | Necrosis | Moderate |
|-----------|-----|----------|----------|

[ Necrosis TGLs = 1-11 ]

|       |  |                  |      |
|-------|--|------------------|------|
| Tooth |  | Dental Dysplasia | Mild |
|-------|--|------------------|------|

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 105

TRT#: 5

SEX: Male

DAY ON TEST: 728

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400554

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mesenteric    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|  |               |                    |                         |
|--|---------------|--------------------|-------------------------|
| * Bone Marrow  |               | Hypercellularity   | Moderate                |
| * Islets, Pancreatic   |               | Hyperplasia        | Mild                    |
| * Kidney   | Papilla       | Necrosis           | Mild                    |
|  |               | Nephropathy        | Chronicprogr, Mild      |
| * Liver  |               | Eosinophilic Focus |                         |
| * Lymph Node, Mandibular   |               | Hyperplasia        | Plasma Cell, Marked     |
| * Nose   |               | Foreign Body       |                         |
|  |               | Inflammation       | Chronic Active, Minimal |
|  | Olfactory Epi | Metaplasia         | Respiratory, Minimal    |
| Note: Nasal cavity inflammation related to plant material inhaled into cavity. |               |                    |                         |
| * Preputial Gland  |               | Inflammation       | Chronic Active, Marked  |
| * Prostate   |               | Inflammation       | Chronic Active, Mild    |
| * Spleen   | White Pulp    | Atrophy            | Moderate                |
| * Thymus   |               | Atrophy            | Marked                  |
| Tooth  |               | Dental Dysplasia   | Mild                    |

PRIMARY CAUSE OF DEATH

- Kidney Papilla Necrosis

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 105

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 728

**DOSE:** 1000 mg/L

**DISP:** Natural Death

**HISTO:** 1400554

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Animal Note: Increased neutrophilia noted in many organs; suspect septicemia, cause unclear, but areas of renal papillary necrosis noted as cause of death.

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 106

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400555

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mesenteric    | * Nose                   |
| * Pancreas                 | * Parathyroid Gland       | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| Testis                     | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |              |                        |                       |
|--------------------------|--------------|------------------------|-----------------------|
| * Intestine Large, Cecum |              | Pigment                | Minimal               |
| * Islets, Pancreatic     |              | Hyperplasia            | Mild                  |
| * Kidney                 |              | Nephropathy            | Chronicprogr, Minimal |
|                          |              | Pigment                | Minimal               |
|                          | Renal Tubule | Regeneration           | Minimal               |
| * Liver                  |              | Clear Cell Focus       |                       |
|                          |              | Eosinophilic Focus     |                       |
|                          |              | Hepatoblastoma         |                       |
|                          |              | Hepatocellular Adenoma |                       |
|                          |              | Mixed Cell Focus       |                       |

Note: Minute, early hepatoblastoma formation within "adenoma" on slide 12.

Note: Multiple foci in most lobes presented.

[ Eosinophilic Focus TGLs = 5-15 ]

[ Hepatocellular Adenoma TGLs = 2-12 ]

[ Mixed Cell Focus TGLs = 3,4-13+14 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 106

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400555

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|                          |               |                    |                      |
|--------------------------|---------------|--------------------|----------------------|
| * Lymph Node, Mandibular |               | Hyperplasia        | Lymphocyte, Moderate |
| * Pituitary Gland        | Pars Distalis | Hyperplasia        | Marked               |
| * Preputial Gland        |               | Cyst               |                      |
| * Spleen                 |               | Lymphoma Malignant |                      |
| [ Lymphoma Malignant     | TGLs = 1-11 ] |                    |                      |
| Tooth                    |               | Dental Dysplasia   | Mild                 |

---



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 107

TRT#: 5

SEX: Male

DAY ON TEST: 686

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400556

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

\* Brain  
Note: Bacterial colonies/overgrowth noted in a few blood vessels.

\* Heart  
Inflammation  
Suppurative, Minimal  
Note: Mostly neutrophilic inflammation in epicardial and endocardial areas; associated massive bacterial overgrowth in left ventricle and aorta.  
Note: Cause of death noted in "heart - inflammation"; COD interpreted to be due to septicemia (related to heart inflammation and evidence of bacteria).

\* Kidney  
Nephropathy  
Chronicprogr, Minimal  
Note: Numerous bacterial colonies in glomeruli and vessels.

\* Liver  
Hepatocyte  
Hepatocellular Adenoma  
Necrosis  
Moderate  
Note: Small nodule (adenoma) on slide 11, defined as such due to clear compression at margins and gross nodular appearance. Mottling due to necrosis.  
[ Hepatocellular Adenoma TGLs = 1-11 ]

\* Lung  
Note: Leukocytosis in most blood vessels noted.

\* Thymus  
Atrophy  
Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 107

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 686

**DOSE:** 1000 mg/L

**DISP:** Natural Death

**HISTO:** 1400556

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Moderate

---

PRIMARY CAUSE OF DEATH - Heart Inflammation

CONTRIBUTORY CAUSE OF DEATH - Liver Hepatocyte Necrosis

---

Animal Note: Tissues are severely autolyzed, but coded present when they clearly have no neoplastic or treatment-related changes.

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 108

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400557

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Liver                     | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                   |                |                  |                       |
|-------------------|----------------|------------------|-----------------------|
| * Adrenal Cortex  |                | Hypertrophy      | Minimal               |
| * Kidney          |                | Infarct          | Minimal               |
|                   |                | Nephropathy      | Chronicprogr, Minimal |
|                   | Renal Tubule   | Regeneration     | Minimal               |
| * Preputial Gland |                | Cyst             |                       |
|                   |                | Inflammation     | Suppurative, Marked   |
| Testis            | Germinal Epith | Degeneration     | Minimal               |
| * Thymus          |                | Atrophy          | Moderate              |
| Tooth             |                | Dental Dysplasia | Marked                |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 109

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400558

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |  |                                   |                       |
|----------------------|--|-----------------------------------|-----------------------|
| * Adrenal Cortex     |  | Accessory Adrenal Cortical Nodule |                       |
|                      |  | Hypertrophy                       | Minimal               |
| * Harderian Gland    |  | Hyperplasia                       | Moderate              |
| * Islets, Pancreatic |  | Hyperplasia                       | Minimal               |
| * Kidney             |  | Nephropathy                       | Chronicprogr, Minimal |
| * Liver              |  | Hepatocellular Adenoma            |                       |
|                      |  | Infiltration Cellular             | Mixed Cell, Minimal   |
|                      | [ Hepatocellular Adenoma TGLs = 1-12 ] |                                   |                       |
| Testis               | Germinal Epith                         | Degeneration                      | Minimal               |
| Tooth                |  | Dental Dysplasia                  | Mild                  |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 110

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400559

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Brain                    | * Epididymis              |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |                          |                    |
|----------------------|--------------|--------------------------|--------------------|
| * Adrenal Cortex     |              | Hypertrophy              | Minimal            |
| * Bone               |              | Fibro-Osseous Lesion     | Minimal            |
| * Bone Marrow        |              | Hypercellularity         | Minimal            |
| * Islets, Pancreatic |              | Hyperplasia              | Mild               |
| * Kidney             |              | Nephropathy              | Chronicprogr, Mild |
|                      |              | Pigment                  | Minimal            |
|                      | Renal Tubule | Regeneration             | Minimal            |
| * Liver              |              | Clear Cell Focus         |                    |
|                      |              | Hepatocellular Adenoma   |                    |
|                      |              | Hepatocellular Carcinoma |                    |
|                      |              | Mixed Cell Focus         |                    |

Note: Mixed focus is collision of large eos focus and several clear cell foci. Other clear cell foci present in other lobes.

[ Hepatocellular Adenoma TGLs = 2-12 ]

[ Hepatocellular Carcinoma TGLs = 1-11 ]

[ Mixed Cell Focus TGLs = 3-13 ]

Mesentery

Artery

Inflammation

Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 110

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400559

ORGAN AND ACCOUNTABLE SITE STATUS

|   |                |                     |          |
|---|----------------|---------------------|----------|
| * Nose  |                | Polyp, Inflammatory | Mild     |
| Note: Polyp in nasal cavity on same side as markedly dysplastic tooth, interpreted to be inflammatory in nature, related to lumen disturbance related to tooth. |                |                     |          |
| * Stomach, Forestomach  | Epithelium     | Hyperplasia         | Moderate |
| Note: Focal hyperplasia with pinpoint ulcer and associated inflammation (neither of which were diagnosed separately).   |                |                     |          |
| [ Hyperplasia TGLs = 4-12 ]   |                |                     |          |
| Testis  | Germinal Epith | Degeneration        | Minimal  |
| Tooth   |                | Dental Dysplasia    | Marked   |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 111

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400560

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |   |  |                          |                      |
|---|--|--------------------------|----------------------|
| * Bone Marrow   |  | Hypercellularity         | Moderate             |
| * Epididymis  |  |                          |                      |
| Note: Empty epididymides contain a few degenerate cells from testes.  |  |                          |                      |
| * Heart   |  | Cardiomyopathy           | Minimal              |
| * Kidney  | Renal Tubule                             | Cyst                     |                      |
|   |  | Nephropathy              | Chronicprogr, Marked |
|   |  | Pigment                  | Minimal              |
|   | Renal Tubule                             | Regeneration             | Mild                 |
| Note: Marked nephropathy with tubular cysts on designated TGL slides (12+13) as well as on routine slide 5. |  |                          |                      |
|   | [ Cyst TGLs = 3,4-12+13 ]                |                          |                      |
|   | [ Nephropathy TGLs = 2-12+13 ]           |                          |                      |
| * Liver   |  | Hepatocellular Carcinoma |                      |
|   | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                          |                      |
| * Lung  |  | Hepatocellular Carcinoma | Metastatic (Liver)   |
| * Nose  | Olfactory Epi                            | Metaplasia               | Respiratory, Minimal |
| * Preputial Gland   |  | Cyst                     |                      |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 111

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400560

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Inflammation

Suppurative, Marked

Extramedullary Hematopoiesis

Mild

Testis

Germinal Epith

Degeneration

Moderate

---



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 112

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400561

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Bone Marrow             | * Brain                     | * Epididymis             | * Esophagus                |
| * Eye                     | * Gallbladder               | * Harderian Gland        | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

\* Epididymis

Note: Epididymides contain many degenerate cells from testes.

\* Heart

Cardiomyopathy

Minimal

\* Intestine Large, Cecum

Pigment

Minimal

\* Kidney

Nephropathy

Chronicprogr, Mild

Renal Tubule

Pigment

Minimal

Regeneration

Moderate

\* Liver

Eosinophilic Focus

Infiltration Cellular

Mixed Cell, Minimal

[ Eosinophilic Focus TGLs = 4-11 ]

\* Lung

Alveolar/Bronchiolar Adenoma

[ Alveolar/Bronchiolar Adenoma TGLs = 1-11 ]

\* Lymph Node, Mesenteric

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 3-12 ]

\* Nose

Respirat Epith

Hyperplasia

Minimal

\* Spleen

Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 112

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400561

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

Note: Early lymphoma coded; spleen not completely effaced; mesenteric lymph node is more representative of neoplastic change.

[ Lymphoma Malignant TGLs = 2-12 ]

|        |                |                  |          |
|--------|----------------|------------------|----------|
| Testis | Germinal Epith | Degeneration     | Moderate |
| Tooth  |                | Dental Dysplasia | Minimal  |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 113

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400562

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thymus                    | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                          |   |                        |                        |
|--------------------------|---|------------------------|------------------------|
| * Adrenal Cortex         |   | Hypertrophy            | Minimal                |
| * Islets, Pancreatic     |   | Hyperplasia            | Minimal                |
| * Kidney                 |   | Nephropathy            | Chronicprogr, Minimal  |
| * Liver                  |   | Eosinophilic Focus     |                        |
|                          |   | Hepatocellular Adenoma | Multiple               |
|                          |   | Mixed Cell Focus       |                        |
|                          | [ Hepatocellular Adenoma TGLs = 1,3-11 ]                        |                        |                        |
|                          | [ Mixed Cell Focus TGLs = 2-12 ]                                |                        |                        |
| * Lung                   | Alveolar Epith  | Hyperplasia            | Minimal                |
| * Lymph Node, Mesenteric |   | Infiltration Cellular  | Mixed Cell, Minimal    |
| Mesentery                | Fat   | Necrosis               | Moderate               |
|                          | Note: TGL-5, Pancreas nodule is really necrotic mesenteric fat. |                        |                        |
|                          | [ Necrosis TGLs = 4,5-12+13 ]                                   |                        |                        |
| * Preputial Gland        |   | Inflammation           | Chronic Active, Marked |
| * Thyroid Gland          | Follicle  | Degeneration           | Minimal                |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 113

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400562

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Minimal

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 114

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400563

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |              |                        |                       |
|---|--------------|------------------------|-----------------------|
| * Adrenal Cortex  |              | Hypertrophy            | Minimal               |
| * Epididymis  |              |                        |                       |
| Note: Unilateral "empty" epididymis due to atrophy of same-side testicle. |              |                        |                       |
| * Intestine Large, Cecum  |              | Pigment                | Minimal               |
| * Islets, Pancreatic  |              | Hyperplasia            | Mild                  |
| * Kidney  |              | Mineral                | Minimal               |
|   |              | Nephropathy            | Chronicprogr, Minimal |
|   |              | Pigment                | Minimal               |
|   | Renal Tubule | Regeneration           | Minimal               |
| * Liver   |              | Eosinophilic Focus     |                       |
|   |              | Hepatocellular Adenoma | Multiple              |
|   |              | Hyperplasia            | Nodular, Marked       |

Note: TGL-1 is large, multinodular mass consisting of altered hepatocytes, large areas of necrosis, hemorrhage and inflammation with embedded bile ducts.

[ Eosinophilic Focus TGLs = 6,7-13+14 ]

[ Hepatocellular Adenoma TGLs = 3,4,5-12+12+13 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 114

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400563

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ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Hyperplasia TGLs = 1-11 ]

Testis

Germinal Epith

Degeneration

Moderate

Note: Unilateral atrophy noted.

Tooth

Dental Dysplasia

Moderate

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 115

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400564

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

**MISSING**

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                          |   |                              |                    |
|--------------------------|---|------------------------------|--------------------|
| * Adrenal Cortex         |   | Hypertrophy                  | Minimal            |
| * Intestine Large, Cecum |   | Pigment                      | Minimal            |
| * Islets, Pancreatic     |   | Hyperplasia                  | Minimal            |
| * Kidney                 |   | Mineral                      | Minimal            |
|                          |   | Nephropathy                  | Chronicprogr, Mild |
|                          | Renal Tubule  | Pigment                      | Minimal            |
| * Liver                  |   | Regeneration                 | Minimal            |
|                          | [ Hepatocellular Adenoma TGLs = 1-12 ]  | Hepatocellular Adenoma       |                    |
| * Lung                   |   | Alveolar/Bronchiolar Adenoma |                    |
|                          | Note: Minute frond-like proliferation of alveolar cells running into an airway, coded as small adenoma. |                              |                    |
| * Stomach, Glandular     | Glands  | Degeneration                 | Minimal            |
|                          |   | Mineral                      | Minimal            |
|                          | Note: Glandular dilation, eosinophilic crystals within glands notes.                                    |                              |                    |
| Tooth                    |   | Dental Dysplasia             | Minimal            |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 116

TRT#: 5

SEX: Male

DAY ON TEST: 694

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400565

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Glandular      | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

**MISSING**

- |                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mesenteric | * Mammary Gland |
|--------------------------|-----------------|

**AUTO PRECLUDES DIAG.**

- \* Islets, Pancreatic

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |   |                |                                |                       |
|---|----------------|--------------------------------|-----------------------|
| * Bone Marrow   |                | Hypercellularity               | Minimal               |
| * Heart   |                | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung)     |
| * Kidney  |                | Mineral                        | Minimal               |
|   |                | Nephropathy                    | Chronicprogr, Minimal |
| * Liver   |                | Eosinophilic Focus             |                       |
| * Lung  |                | Alveolar/Bronchiolar Carcinoma | Multiple              |
| <p>Note: Several well to poorly differentiated A-B carcinomas in lungs. Many other nodules are undifferentiated, some on pleural, of uncertain cell origin.<br/>         Note: All are interpreted to be of highly malignant A-B cell origin for simplicity; metastases to thymus and heart are present of the undifferentiated cell type.<br/>         [ Alveolar/Bronchiolar Carcinoma TGLs = 2,3,4,5,6,7,-12 ]</p> |                |                                |                       |
| * Lymph Node, Mandibular  |                | Hyperplasia                    | Plasma Cell, Marked   |
| Mesentery   | Fat            | Necrosis                       | Marked                |
| <p>[ Necrosis TGLs = 1-11 ]</p>   |                |                                |                       |
| * Nose  | Respirat Epith | Hyperplasia                    | Minimal               |
|   | Olfactory Epi  | Metaplasia                     | Respiratory, Minimal  |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 116

TRT#: 5

SEX: Male

DAY ON TEST: 694

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400565

ORGAN AND ACCOUNTABLE SITE STATUS

\* Preputial Gland

Cyst

\* Stomach, Forestomach

Inflammation

Suppurative, Marked

\* Thymus

Hyperkeratosis

Moderate

Note: Thymic and mediastinal invasion.

Alveolar/Bronchiolar Carcinoma

Metastatic (Lung)

Tooth

Dental Dysplasia

Mild

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 117

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400566

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |                        |                       |
|----------------------|--------------|------------------------|-----------------------|
| * Adrenal Cortex     |              | Hyperplasia            | Mild                  |
| * Bone Marrow        |              | Hypercellularity       | Minimal               |
| * Islets, Pancreatic |              | Hyperplasia            | Minimal               |
| * Kidney             | Renal Tubule | Cyst                   |                       |
|                      |              | Nephropathy            | Chronicprogr, Minimal |
|                      |              | Pigment                | Minimal               |
|                      | Renal Tubule | Regeneration           | Minimal               |
| * Liver              |              | Clear Cell Focus       |                       |
|                      |              | Eosinophilic Focus     |                       |
|                      |              | Fatty Change           | Diffuse, Minimal      |
|                      |              | Hepatocellular Adenoma |                       |

Note: Multiple eos foci in multiple lobes.

Note: No obvious focus or nodule on slide 13 (processed for TGL-2); although "deformity" could be diagnosed, such a lesion (HDN) would not be tan at gross. So, NCL.

[ Eosinophilic Focus TGLs = 1-12 ]

[ Hepatocellular Adenoma TGLs = 3-14 ]

|                   |  |                  |                         |
|-------------------|--|------------------|-------------------------|
| * Preputial Gland |  | Inflammation     | Chronic Active, Minimal |
| * Prostate        |  | Hyperplasia      | Minimal                 |
| Tooth             |  | Dental Dysplasia | Mild                    |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 118

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400567

**ORGAN AND ACCOUNTABLE SITE STATUS**

Lymphoma Malignant

Note: TGL-1, slide 11: renal lymph node.

Note: Hemangiosarc mets within lymphomatous renal node on slide 11.

[ Lymphoma Malignant TGLs = 1-11 ]

\* Lymph Node, Mandibular

Lymphoma Malignant

\* Lymph Node, Mesenteric

Hemangiosarcoma

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 6-13 ]

\* Preputial Gland

Cyst

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 3-5+11 ]

Testis

Germinal Epith

Degeneration

Minimal

\* Thymus

Lymphoma Malignant

Note: TGL-2 is lymphoma, and coded under thymus; mediastinal nodes present on slide 7 are atrophied.

[ Lymphoma Malignant TGLs = 2-7 ]

\* Thyroid Gland

Follicular Cel

Adenoma

Follicle

Degeneration

Moderate

Tooth

Dental Dysplasia

Minimal

PRIMARY CAUSE OF DEATH - Lymph Node, Mesenteric Lymphoma Malignant

CONTRIBUTORY CAUSE OF DEATH - Liver Hemangiosarcoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 119

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400568

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Epididymis             | * Esophagus                | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | Testis                   | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                               |              |                          |                       |
|-------------------------------|--------------|--------------------------|-----------------------|
| * Bone Marrow                 |              | Hypercellularity         | Minimal               |
| * Eye                         | Retina       | Dysplasia                | Minimal               |
| * Intestine Large, Cecum      |              | Pigment                  | Minimal               |
| * Kidney                      |              | Infarct                  | Minimal               |
|                               |              | Metaplasia               | Osseous, Minimal      |
|                               |              | Mineral                  | Minimal               |
|                               |              | Nephropathy              | Chronicprogr, Minimal |
|                               |              | Pigment                  | Minimal               |
|                               | Renal Tubule | Regeneration             | Minimal               |
| Note: Heterotopic bone noted. |              |                          |                       |
| * Liver                       | Hepatocyte   | Eosinophilic Focus       |                       |
|                               |              | Fatty Change             | Focal, Minimal        |
|                               |              | Hepatocellular Adenoma   | Multiple              |
|                               |              | Hepatocellular Carcinoma |                       |
|                               |              | Mixed Cell Focus         |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 119

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400568

ORGAN AND ACCOUNTABLE SITE STATUS

Note: Multiple eos foci noted.

[ Eosinophilic Focus TGLs = 5-14 ]

[ Hepatocellular Adenoma TGLs = 2,3-12 ]

[ Hepatocellular Carcinoma TGLs = 1-11 ]

\* Lung

Hepatocellular Carcinoma

Metastatic (Liver)

Alveolar Epith

Hyperplasia

Minimal

\* Skin

Pinna

Sarcoma

[ Sarcoma TGLs = 4-13 ]

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 120

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400569

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Brain                     |
| * Epididymis             | * Esophagus                | * Gallbladder             | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Skin                    | * Spleen                    |
| * Stomach, Glandular     | Testis                     | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |   |                       |                       |
|----------------------|---|-----------------------|-----------------------|
| * Adrenal Cortex     | Subcapsular   | Hyperplasia           | Marked                |
| * Bone Marrow        |   | Hypercellularity      | Moderate              |
| * Eye                |   | Phthisis Bulbi        |                       |
|                      | [ Phthisis Bulbi TGLs = 3-8 ]   |                       |                       |
| * Harderian Gland    |   | Carcinoma             |                       |
|                      | Note: Well differentiated Harderian tumor is coded "carcinoma" because of apparent mets in regional (mandibular) lymph node.  |                       |                       |
|                      | [ Carcinoma TGLs = 4-8 ]  |                       |                       |
| * Heart              |   |                       |                       |
|                      | Note: Mature lymphocytes noted, filling a few lymphatics.   |                       |                       |
| * Islets, Pancreatic |   | Hyperplasia           | Minimal               |
| * Kidney             |   | Nephropathy           | Chronicprogr, Minimal |
| * Liver              |   | Eosinophilic Focus    |                       |
|                      |   | Hyperplasia           | Nodular, Moderate     |
|                      |   | Infiltration Cellular | Mixed Cell, Minimal   |
|                      | Note: There is an additional hepatocellular focus consisting of very small and normo-chromatic cells. A diagnosis of "hepatocyte hyperplasia" cannot be duplicated. |                       |                       |
|                      | [ Hyperplasia TGLs = 1,2-12 ]   |                       |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 120

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400569

ORGAN AND ACCOUNTABLE SITE STATUS

|  |          |                  |                              |
|--|----------|------------------|------------------------------|
| * Lung   |          |                  |                              |
| Note: Several large nuclei/cells noted in a few capillaries; these may be Harderian mets but are only noted here because their morphology is inconclusive. |          |                  |                              |
| * Lymph Node, Mandibular   |          | Carcinoma        | Metastatic (Harderian Gland) |
| Note: Tubular acinar formation of epithelioid cells interpreted to be metastatic cells from Harderian gland tumor.   |          |                  |                              |
| * Lymph Node, Mesenteric   |          | Hyperplasia      | Plasma Cell, Marked          |
| [ Hyperplasia TGLs = 5-6 ]   |          |                  |                              |
| * Preputial Gland  |          | Cyst             |                              |
| * Stomach, Forestomach   |          | Cyst             |                              |
| * Thyroid Gland  | Follicle | Degeneration     | Minimal                      |
| Tooth  |          | Dental Dysplasia | Minimal                      |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 121

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400570

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |  |                       |
|--------------------------|--|--|-----------------------|
| * Adrenal Cortex         | Subcapsular                            | Adenoma  |                       |
|                          |  | Hypertrophy  | Minimal               |
| * Bone                   |  | Fibro-Osseous Lesion   | Minimal               |
| * Intestine Large, Cecum |  | Pigment  | Minimal               |
| * Islets, Pancreatic     |  | Hyperplasia  | Mild                  |
| * Kidney                 | Renal Tubule                           | Adenoma  |                       |
|                          | Renal Tubule                           | Nephropathy  | Chronicprogr, Minimal |
|                          |  | Regeneration   | Minimal               |
| * Liver                  |  | Hepatocellular Adenoma   |                       |
|                          |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|                          | [ Hepatocellular Adenoma TGLs = 1-12 ] |  |                       |
| * Preputial Gland        |  | Cyst   |                       |
| * Stomach, Forestomach   |  | Infiltration Cellular  | Mast Cell, Marked     |
|                          |  | Note: Nodular proliferation of mast cells under limiting ridge. Mast cell tumor is not an option in TDMSE lexicon. |                       |
| Testis                   | Germinal Epith                         | Degeneration   | Minimal               |
| Tooth                    |  | Dental Dysplasia   | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 122

TRT#: 5

SEX: Male

DAY ON TEST: 652

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400571

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Esophagus                | * Eye                     | * Gallbladder               |
| * Harderian Gland        | * Heart                    | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Nose                   | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Preputial Gland        | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Glandular     | * Trachea                  | * Urinary Bladder         |                             |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |              |                        |                         |
|--|--------------|------------------------|-------------------------|
| * Brain  |              | Necrosis               | Mild                    |
| Note: Acute neuronal necrosis in frontal cortex.   |              |                        |                         |
| * Epididymis   |              | Granuloma Sperm        | Minimal                 |
| * Intestine Large, Cecum   |              | Pigment                | Minimal                 |
| * Intestine Large, Colon   |              | Ulcer                  | Mild                    |
| * Islets, Pancreatic   |              | Adenoma                |                         |
| Note: Two other islets are enlarged and would warrant dx of "hyperplasia" but they are not coded in the presences of the larger islet adenoma. |              |                        |                         |
| Note: Islet adenomas are often associated with brain neuron necrosis and death in mice.  |              |                        |                         |
| * Kidney   | Renal Tubule | Regeneration           | Mild                    |
| Note: Kidneys have excessive renal tubular cell vacuolization, which probably contributes to pale gross appearance.                            |              |                        |                         |
| [ Regeneration TGLs = 3-5 ]  |              |                        |                         |
| * Liver  |              | Basophilic Focus       |                         |
|  |              | Hepatocellular Adenoma |                         |
| [ Hepatocellular Adenoma TGLs = 1,2-11+12 ]  |              |                        |                         |
| * Lymph Node, Mesenteric   |              | Atrophy                | Moderate                |
| * Prostate   |              | Inflammation           | Chronic Active, Minimal |
| * Spleen   | White Pulp   | Atrophy                | Moderate                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 122

TRT#: 5

SEX: Male

DAY ON TEST: 652

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400571

ORGAN AND ACCOUNTABLE SITE STATUS

|   |                        |                                 |                              |
|---|------------------------|---------------------------------|------------------------------|
| * Stomach, Forestomach  | Red Pulp<br>Epithelium | Atrophy<br>Hyperplasia<br>Ulcer | Moderate<br>Moderate<br>Mild |
| Note: Hyperkeratosis present in association with diffuse hyperplasia. |                        |                                 |                              |
| Testis  | Germinal Epith         | Degeneration                    | Minimal                      |
| * Thyroid Gland   | Follicle               | Cyst                            |                              |
| Tooth   |                        | Dental Dysplasia                | Mild                         |

PRIMARY CAUSE OF DEATH - Islets, Pancreatic Adenoma

CONTRIBUTORY CAUSE OF DEATH - Brain Necrosis

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 123

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400572

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |   |                        |                       |
|----------------------|---|------------------------|-----------------------|
| * Adrenal Cortex     | Subcapsular                                 | Hyperplasia            | Moderate              |
|                      |   | Hypertrophy            | Minimal               |
| * Bone Marrow        |   | Hypercellularity       | Minimal               |
| * Islets, Pancreatic |   | Hyperplasia            | Minimal               |
| * Kidney             |   | Nephropathy            | Chronicprogr, Minimal |
|                      |   | Pigment                | Minimal               |
|                      | Renal Tubule                                | Regeneration           | Minimal               |
| * Liver              |   | Clear Cell Focus       |                       |
|                      |   | Eosinophilic Focus     |                       |
|                      |   | Hepatocellular Adenoma | Multiple              |
|                      | [ Hepatocellular Adenoma TGLs = 2,3-13+14 ] |                        |                       |
| * Nose               | Olfactory Epi                               | Metaplasia             | Respiratory, Minimal  |
| * Prostate           | Artery                                      | Inflammation           | Chronic Active, Mild  |
| Tooth                |   | Dental Dysplasia       | Moderate              |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 124

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400573

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                          |  |                                |                       |
|--------------------------|--|--------------------------------|-----------------------|
| * Bone Marrow            |  | Hypercellularity               | Minimal               |
| * Intestine Large, Cecum |  | Pigment                        | Minimal               |
| * Islets, Pancreatic     |  | Hyperplasia                    | Mild                  |
| * Kidney                 |  | Infarct                        | Minimal               |
|                          |  | Mineral                        | Minimal               |
|                          | Renal Tubule                           | Nephropathy                    | Chronicprogr, Minimal |
| * Liver                  |  | Regeneration                   | Minimal               |
|                          |  | Eosinophilic Focus             |                       |
|                          |  | Hepatocellular Adenoma         |                       |
|                          |  | Mixed Cell Focus               |                       |
|                          | [ Hepatocellular Adenoma TGLs = 1-12 ] |                                |                       |
|                          | [ Mixed Cell Focus TGLs = 2-13 ]       |                                |                       |
| * Lung                   |  | Alveolar/Bronchiolar Carcinoma |                       |
|                          | Alveolar Epith                         | Hyperplasia                    | Minimal               |
- Note: Mass accompanied with numerous large eosinophilic macrophages, alveolar crystals, and some inflammation, typical of response to AB carc.
- [ Alveolar/Bronchiolar Carcinoma TGLs = 4-15 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 124

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400573

ORGAN AND ACCOUNTABLE SITE STATUS

|  |                |                  |                      |
|--|----------------|------------------|----------------------|
| * Nose   | Olfactory Epi  | Metaplasia       | Respiratory, Minimal |
| * Sem Ves  |                |                  |                      |
| Note: There is peracute hemorrhage in the "non" TGL seminal vesicle (which was not diagnosed and appears agonal) but no histopathology in TGL-3. |                |                  |                      |
| Testis   | Germinal Epith | Degeneration     | Minimal              |
| * Thyroid Gland  | Follicle       | Cyst             |                      |
|  | Follicle       | Degeneration     | Minimal              |
| Tooth  |                | Dental Dysplasia | Marked               |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 125

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400574

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |  |                                |                       |
|----------------------|--|--------------------------------|-----------------------|
| * Adrenal Cortex     |  | Hypertrophy                    | Minimal               |
| * Eye                | Retina   | Dysplasia                      | Minimal               |
| * Islets, Pancreatic |  | Hyperplasia                    | Minimal               |
| * Kidney             | Renal Tubule   | Cyst                           |                       |
|                      | Renal Tubule   | Hyperplasia                    | Minimal               |
|                      |  | Nephropathy                    | Chronicprogr, Minimal |
| * Liver              |  | Clear Cell Focus               |                       |
|                      |  | Eosinophilic Focus             |                       |
|                      |  | Hepatocellular Adenoma         | Multiple              |
|                      | Note: Multiple eos foci on multiple sections.<br>[ Hepatocellular Adenoma TGLs = 1-4+6; 2-11 ] |                                |                       |
| * Lung               |  | Alveolar/Bronchiolar Carcinoma |                       |
| Tooth                |  | Dental Dysplasia               | Minimal               |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 126

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400575

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thymus                 | * Trachea                  | * Urinary Bladder         |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |  |              |                          |                    |
|--|--------------|--------------------------|--------------------|
| * Bone Marrow  |              | Hypercellularity         | Minimal            |
| * Brain  |              | Ependymoma Malignant     |                    |
| Note: Ependymoma of fourth ventricle on slide 3; high mitotic index with atypia noted. |              |                          |                    |
| * Heart  |              | Cardiomyopathy           | Minimal            |
| * Kidney   |              | Nephropathy              | Chronicprogr, Mild |
|  |              | Pigment                  | Minimal            |
|  | Renal Tubule | Regeneration             | Moderate           |
| * Liver  |              | Hepatocellular Adenoma   | Multiple           |
|  |              | Hepatocellular Carcinoma | Multiple           |
| Note: Additional nodule on slide 6 may be same nodule as that represented on slide 12. |              |                          |                    |
| [ Hepatocellular Adenoma TGLs = 2,3-12+13 ]  |              |                          |                    |
| [ Hepatocellular Carcinoma TGLs = 1,4-11+14 ]  |              |                          |                    |
| * Lung   |              | Hepatocellular Carcinoma | Metastatic (Liver) |
| Note: A few metastatic cells in capillaries noted.                                     |              |                          |                    |
| * Preputial Gland  |              | Cyst                     |                    |
| Note: only one full preputial on slide.  |              |                          |                    |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 126

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400575

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

|                 |                              |                     |
|-----------------|------------------------------|---------------------|
| * Spleen        | Extramedullary Hematopoiesis | Minimal             |
| * Thyroid Gland | Infiltration Cellular        | Lymphocyte, Minimal |
| Tooth           | Dental Dysplasia             | Minimal             |

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 127

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400576

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                          |                           |
|-----------------------------|--------------------------|--------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                   | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                    | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Lung                   | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas               | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands        | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach   | * Stomach, Glandular      |
| Testis                      | * Thymus                 | * Thyroid Gland          | * Trachea                 |
| * Urinary Bladder           |                          |                          |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                            |                                   |                    |                    |
|----------------------------|-----------------------------------|--------------------|--------------------|
| * Adrenal Cortex           |                                   | Hypertrophy        | Minimal            |
| * Bone Marrow              |                                   | Hypercellularity   | Minimal            |
| * Harderian Gland          |                                   | Carcinoma          |                    |
| * Intestine Small, Jejunum |                                   | Carcinoma          |                    |
|                            | [ Carcinoma TGLs = 2-12 ]         |                    |                    |
| * Islets, Pancreatic       |                                   | Hyperplasia        | Minimal            |
| * Kidney                   |                                   | Nephropathy        | Chronicprogr, Mild |
|                            |                                   | Pigment            | Minimal            |
|                            | Renal Tubule                      | Regeneration       | Minimal            |
| * Liver                    |                                   | Clear Cell Focus   |                    |
|                            |                                   | Eosinophilic Focus |                    |
|                            |                                   | Fatty Change       | Diffuse, Minimal   |
|                            | [ Clear Cell Focus TGLs = 1-5 ]   |                    |                    |
|                            | [ Eosinophilic Focus TGLs = 1-5 ] |                    |                    |
| * Preputial Gland          |                                   | Cyst               |                    |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 127

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400576

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 128

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400577

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |   |                                   |                       |
|--------------------------|---|-----------------------------------|-----------------------|
| * Adrenal Cortex         |   | Accessory Adrenal Cortical Nodule |                       |
|                          |   | Hypertrophy                       | Minimal               |
| * Kidney                 |   | Nephropathy                       | Chronicprogr, Minimal |
|                          |   | Pigment                           | Minimal               |
|                          | Renal Tubule                                | Regeneration                      | Minimal               |
| * Liver                  |   | Eosinophilic Focus                |                       |
|                          |   | Fatty Change                      | Diffuse, Minimal      |
|                          |   | Hepatocellular Adenoma            | Multiple              |
|                          | [ Hepatocellular Adenoma TGLs = 1,2-12+13 ] |                                   |                       |
| * Lung                   | Alveolar Epith                              | Hyperplasia                       | Minimal               |
| * Lymph Node, Mesenteric |   | Extramedullary Hematopoiesis      | Minimal               |
| * Nose                   | Olfactory Epi                               | Metaplasia                        | Respiratory, Minimal  |
| Tooth                    |   | Dental Dysplasia                  | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 129

TRT#: 5

SEX: Male

DAY ON TEST: 509

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400578

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |                    |                       |
|----------------------|--------------|--------------------|-----------------------|
| * Bone Marrow        |              | Hypercellularity   | Minimal               |
| * Islets, Pancreatic |              | Hyperplasia        | Moderate              |
| * Kidney             | Renal Tubule | Cyst               |                       |
|                      |              | Nephropathy        | Chronicprogr, Minimal |
| * Liver              | Hepatocyte   | Eosinophilic Focus |                       |
|                      |              | Fatty Change       | Focal, Minimal        |
|                      |              | Mixed Cell Focus   |                       |

Note: Areas of "diffuse fatty change" also present but cannot be coded since "focal fatty change" excludes that as a repeat diagnosis.

[ Eosinophilic Focus TGLs = 1-11 ]

[ Fatty Change TGLs = 1-11 ]

\* Lung

Note: Increased numbers of neutrophils noted in vessels.

|          |                |                  |          |
|----------|----------------|------------------|----------|
| * Nose   | Respirat Epith | Hyperplasia      | Minimal  |
| * Spleen | White Pulp     | Atrophy          | Minimal  |
| Tooth    |                | Dental Dysplasia | Moderate |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 129

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 509

**DOSE:** 1000 mg/L

**DISP:** Natural Death

**HISTO:** 1400578

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH

- UNCERTAIN

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 130

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400579

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |                              |                       |
|----------------------|--------------|------------------------------|-----------------------|
| * Adrenal Cortex     | Subcapsular  | Hyperplasia                  | Moderate              |
| * Bone Marrow        |              | Hypercellularity             | Moderate              |
| * Islets, Pancreatic |              | Hyperplasia                  | Minimal               |
| * Kidney             |              | Nephropathy                  | Chronicprogr, Minimal |
|                      | Renal Tubule | Pigment                      | Minimal               |
|                      |              | Regeneration                 | Mild                  |
|                      |              | Eosinophilic Focus           |                       |
|                      |              | Hepatocellular Adenoma       | Multiple              |
|                      |              | Lymphoma Malignant           |                       |
|                      |              | Alveolar/Bronchiolar Adenoma |                       |
|                      |              | Lymphoma Malignant           |                       |

Note: Lymphocyte infiltrate noted, not coded.

\* Liver

Note: Other eos foci noted in various sections.

[ Eosinophilic Focus TGLs = 5-14 ]

[ Hepatocellular Adenoma TGLs = 1,2-11+12 ]

\* Lung

Lymph Node

Note: Massively enlarged lymph nodes are what was coded as "pancreas nodules" at gross (TBL-4). Renal node similarly affected with lymphoma.

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 130

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400579

ORGAN AND ACCOUNTABLE SITE STATUS

[ Lymphoma Malignant TGLs = 3-11; 4-13 ]

\* Lymph Node, Mesenteric

\* Preputial Gland

\* Spleen

\* Thymus

\* Thyroid Gland

Tooth

Follicle

Lymphoma Malignant

Cyst

Inflammation

Lymphoma Malignant

Lymphoma Malignant

Degeneration

Dental Dysplasia

Inflammation

Suppurative, Marked

Moderate

Marked

Chronic Active, Moderate



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 131

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400580

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Epididymis                | * Esophagus              | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |  |                              |                          |
|---|--|------------------------------|--------------------------|
| * Bone Marrow   |  | Hypercellularity             | Mild                     |
| * Brain   | Chor Plexus                            | Hyperplasia                  | Mild                     |
| Note: Piling of choroid plexus cells noted on slide 3; no mitoses noted. May be artifact but coded due to a previous tumor in another animal. |  |                              |                          |
| * Eye   | Retina                                 | Dysplasia                    | Minimal                  |
| * Islets, Pancreatic  |  | Hyperplasia                  | Minimal                  |
| * Kidney  |  | Nephropathy                  | Chronicprogr, Minimal    |
|   | Renal Tubule                           | Regeneration                 | Minimal                  |
| * Liver   |  | Basophilic Focus             |                          |
|   |  | Hepatocellular Adenoma       |                          |
|   |  | Mixed Cell Focus             |                          |
|   | [ Hepatocellular Adenoma TGLs = 1-11 ] |                              |                          |
| * Lymph Node, Mesenteric  |  | Extramedullary Hematopoiesis | Minimal                  |
| * Preputial Gland   |  | Cyst                         |                          |
|   |  | Inflammation                 | Chronic Active, Moderate |
| Tooth   |  | Dental Dysplasia             | Mild                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 132

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400581

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                   |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                    |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Lung                   |
| * Lymph Node, Mandibular  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland        |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle        |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland          |
| * Trachea                 | * Urinary Bladder           |                          |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |              |                          |                       |
|---|--------------|--------------------------|-----------------------|
| * Bone Marrow   |              | Hypercellularity         | Mild                  |
| * Epididymis  |              |                          |                       |
| Note: Mostly empty epididymides contain degenerate cells from testes. |              |                          |                       |
| * Heart   |              | Cardiomyopathy           | Minimal               |
| * Intestine Small, Jejunum  | Peyers Patch | Hyperplasia              | Marked                |
| * Islets, Pancreatic  |              | Hyperplasia              | Moderate              |
| * Kidney  |              | Nephropathy              | Chronicprogr, Minimal |
|   |              | Pigment                  | Minimal               |
|   | Renal Tubule | Regeneration             | Moderate              |
| * Liver   |              | Eosinophilic Focus       |                       |
|   |              | Hemangiosarcoma          |                       |
|   |              | Hepatocellular Adenoma   | Multiple              |
|   |              | Hepatocellular Carcinoma |                       |

Note: Median lobe hepato adenomas (gross: nodules) noted on slides 6 and 13. Sites of hemangiosarc also present on slides and 12 and 13 (plus slide 4).

Note: Change TGL 5=NCL.

[ Hemangiosarcoma TGLs = 3-4 ]

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 132

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400581

ORGAN AND ACCOUNTABLE SITE STATUS

|   |                |                              |                      |
|---|----------------|------------------------------|----------------------|
| [ Hepatocellular Adenoma TGLs = 4-13 ]                        |                |                              |                      |
| [ Hepatocellular Carcinoma TGLs = 2-12 ]                      |                |                              |                      |
| Lymph Node  |                | Hyperplasia                  | Lymphocyte, Marked   |
| Note: Renal lymph node with lymphoid hyperplasia, on slide 8. |                |                              |                      |
| * Lymph Node, Mesenteric                                      |                | Hyperplasia                  | Lymphocyte, Marked   |
| [ Hyperplasia TGLs = 6-6 ]                                    |                |                              |                      |
| * Nose  | Olfactory Epi  | Metaplasia                   | Respiratory, Minimal |
| * Spleen  |                | Extramedullary Hematopoiesis | Minimal              |
|   |                | Hemangiosarcoma              |                      |
| [ Hemangiosarcoma TGLs = 1-11 ]                               |                |                              |                      |
| Testis  | Germinal Epith | Degeneration                 | Moderate             |
| * Thymus  |                | Atrophy                      | Marked               |
| Tooth   |                | Dental Dysplasia             | Moderate             |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 133

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400582

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                |                  |                       |
|--------------------------|----------------|------------------|-----------------------|
| * Bone Marrow            |                | Hypercellularity | Mild                  |
| * Intestine Large, Cecum |                | Pigment          | Minimal               |
| * Islets, Pancreatic     |                | Hyperplasia      | Mild                  |
| * Kidney                 |                | Nephropathy      | Chronicprogr, Minimal |
|                          | Renal Tubule   | Regeneration     | Minimal               |
| * Liver                  |                | Clear Cell Focus |                       |
| * Lung                   | Alveolar Epith | Hyperplasia      | Minimal               |
| * Lymph Node, Mesenteric |                | Hyperplasia      | Plasma Cell, Mild     |
| * Thyroid Gland          | Follicular Cel | Adenoma          |                       |
|                          | Follicle       | Degeneration     | Mild                  |
| Tooth                    |                | Dental Dysplasia | Mild                  |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 134

TRT#: 5

SEX: Male

DAY ON TEST: 575

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400583

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

- |                           |                             |                            |                          |
|---------------------------|-----------------------------|----------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel               | * Bone                   |
| * Brain                   | * Esophagus                 | * Eye                      | * Harderian Gland        |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Jejunum | * Lymph Node, Mandibular |
| * Nose                    | * Parathyroid Gland         | * Preputial Gland          | * Salivary Glands        |
| * Seminal Vesicle         | * Skin                      | Testis                     | * Thyroid Gland          |
| * Trachea                 | * Urinary Bladder           |                            |                          |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- \* Adren Cortex  
 Note: All lobes/liver slides depict massive lymphoma infiltration.
- \* Bone Marrow  
 Lymphoma Malignant
- \* Brain  
 Note: Focal minute area of malacia on slide 3 presumed due to lymphoma-related blood clot off plane of section.
- \* Epididymis  
 Lymphoma Malignant
- \* Gallbladder  
 Lymphoma Malignant
- \* Heart  
 Mineral  
 Note: Chronic thrombus in left atrium.  
 Minimal
- \* Intestine Large, Cecum  
 Edema  
 Marked
- \* Intestine Large, Colon  
 Edema  
 Moderate
- \* Intestine Small, Ileum  
 Edema  
 Mild  
 Note: "Edema" is coded, but is believed to be due to blocked lymphatics related to disseminated lymphoma.
- \* Islets, Pancreatic  
 Hyperplasia  
 Minimal
- \* Kidney  
 Lymphoma Malignant  
 Mineral  
 Minimal  
 Nephropathy  
 Chronicprogr, Moderate  
 Renal Tubule  
 Regeneration  
 Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 134

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 575

**DOSE:** 1000 mg/L

**DISP:** Moribund Sacrifice

**HISTO:** 1400583

**ORGAN AND ACCOUNTABLE SITE STATUS**

|                          |  |                    |         |
|--------------------------|--|--------------------|---------|
| * Liver                  |  | Lymphoma Malignant |         |
|                          | [ Lymphoma Malignant TGLs = 3,4-12+13 ]              |                    |         |
| * Lung                   |  | Lymphoma Malignant |         |
| Lymph Node               |  | Lymphoma Malignant |         |
|                          | Note: Lumbar, renal, and mediastinal nodes affected. |                    |         |
|                          | [ Lymphoma Malignant TGLs = 5,6,7-14+15+16 ]         |                    |         |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant |         |
|                          | [ Lymphoma Malignant TGLs = 8-17 ]                   |                    |         |
| Mesentery                |  | Lymphoma Malignant |         |
| * Pancreas               |  | Lymphoma Malignant |         |
| * Pituitary Gland        | Pars Distalis  | Hyperplasia        | Minimal |
| * Prostate               |  | Lymphoma Malignant |         |
| * Spleen                 | Capsule  | Fibrosis           | Minimal |
|                          |  | Lymphoma Malignant |         |
|                          | [ Fibrosis TGLs = 1-11 ]                             |                    |         |
|                          | [ Lymphoma Malignant TGLs = 2-11 ]                   |                    |         |
| * Stomach, Forestomach   | Epithelium   | Hyperplasia        | Mild    |
|                          |  | Lymphoma Malignant |         |
| * Stomach, Glandular     |  | Erosion            | Minimal |
| * Thymus                 |  | Lymphoma Malignant |         |
| Tooth                    |  | Dental Dysplasia   | Mild    |

**PRIMARY CAUSE OF DEATH** - Liver Lymphoma Malignant

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 135

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400584

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                   |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                    |
| * Gallbladder             | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Nose                   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate               |
| * Salivary Glands         | * Seminal Vesicle           | * Stomach, Forestomach   | * Stomach, Glandular     |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |              |                          |                       |
|---|--------------|--------------------------|-----------------------|
| * Bone Marrow                                       |              | Lymphoma Malignant       |                       |
| * Harderian Gland                                   |              | Adenoma                  |                       |
| [ Adenoma TGLs = 6-8 ]                              |              |                          |                       |
| * Intestine Small, Jejunum                          |              | Lymphoma Malignant       |                       |
| [ Lymphoma Malignant TGLs = 8-13 ]                  |              |                          |                       |
| * Islets, Pancreatic                                |              | Hyperplasia              | Mild                  |
| * Kidney  |              | Mineral                  | Minimal               |
|   |              | Nephropathy              | Chronicprogr, Minimal |
|   | Renal Tubule | Regeneration             | Minimal               |
| * Liver   |              | Hemangiosarcoma          |                       |
|   |              | Hepatocellular Adenoma   |                       |
|   |              | Hepatocellular Carcinoma |                       |
| Note: Portions of median lobe mass also on slide 4. |              |                          |                       |
| [ Hepatocellular Adenoma TGLs = 2-12 ]              |              |                          |                       |
| [ Hepatocellular Carcinoma TGLs = 1-11 ]            |              |                          |                       |
| * Lung  |              | Hepatocellular Carcinoma | Metastatic (Liver)    |
| Lymph Node  |              | Lymphoma Malignant       |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 135

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400584

ORGAN AND ACCOUNTABLE SITE STATUS

Note: Renal lymph node - lymphoma.

[ Lymphoma Malignant TGLs = 4-13 ]

\* Lymph Node, Mandibular

Lymphoma Malignant

\* Lymph Node, Mesenteric

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 7-14 ]

\* Preputial Gland

Cyst

\* Skin

Ulcer

Marked

Note: One large ulcer (slide 14) and one pin point ulcer, with associated acute inflammation and epithelial hyperplasia.

[ Ulcer TGLs = 5-14 ]

\* Spleen

Hemangiosarcoma

Lymphoma Malignant

Testis

Germinal Epith

Degeneration

Minimal

\* Thymus

Atrophy

Marked

Tooth

Dental Dysplasia

Minimal



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 136

TRT#: 5

SEX: Male

DAY ON TEST: 686

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400585

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

\* Lymph Node, Mandibular      \* Mammary Gland

AUTO PRECLUDES DIAG.

\* Spleen

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |  |                    |
|--|--|--------------------|
| * Liver  | Hepatocellular Carcinoma                                 | Multiple           |
| Note: Part of TGL-2 (median lobe carcinoma) is present on slide 4.<br>[ Hepatocellular Carcinoma TGLs = 2,3-12+13 ]  |  |                    |
| * Lung   | Alveolar/Bronchiolar Adenoma<br>Hepatocellular Carcinoma | Metastatic (Liver) |
| Note: Actual evidence of AB mass on slide 11 is weak, however large areas of eosinophilic macrophages, typical of reaction to large lung mass are present.<br>[ Alveolar/Bronchiolar Adenoma TGLs = 1-11 ] |  |                    |
| * Preputial Gland  | Cyst   |                    |
| [ Cyst TGLs = 4-9 ]  |  |                    |
| Tooth  | Dental Dysplasia   | Minimal            |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 137

TRT#: 5

SEX: Male

DAY ON TEST: 701

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400586

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| Blood Vessel              | * Bone                      | * Bone Marrow            | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

|                   |                          |                 |
|-------------------|--------------------------|-----------------|
| * Adrenal Medulla | * Lymph Node, Mesenteric | * Mammary Gland |
|-------------------|--------------------------|-----------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|  |               |                              |                       |
|--|---------------|------------------------------|-----------------------|
| * Adrenal Cortex   |               | Hypertrophy                  | Mild                  |
| * Kidney   |               | Nephropathy                  | Chronicprogr, Minimal |
| * Liver  |               | Hepatocellular Carcinoma     | Multiple              |
| Note: Marked tumor-associated hepato necrosis present but not coded.<br>[ Hepatocellular Carcinoma TGLs = 1,2-11-5 ]   |               |                              |                       |
| * Lung   |               | Alveolar/Bronchiolar Adenoma |                       |
| Note: One adenoma present on one of two lung slides (block 4); unclear if other focus noted grossly was a second AB adenoma or a hepato carc met.<br>[ Alveolar/Bronchiolar Adenoma TGLs = 3-4 ] |               |                              |                       |
| * Nose   | Olfactory Epi | Metaplasia                   | Respiratory, Minimal  |
| * Preputial Gland  |               | Cyst                         |                       |
| * Spleen   | Red Pulp      | Atrophy                      | Marked                |
|  | White Pulp    | Atrophy                      | Marked                |
|  |               | Pigment                      | Mild                  |
| * Thymus   |               | Atrophy                      | Marked                |
| Tooth  |               | Dental Dysplasia             | Minimal               |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 138

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400587

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                      |  |                  |                       |
|----------------------|--|------------------|-----------------------|
| * Islets, Pancreatic |  | Hyperplasia      | Minimal               |
| * Kidney             |  | Nephropathy      | Chronicprogr, Minimal |
|                      | Renal Tubule                           | Regeneration     | Minimal               |
| * Liver              |  | Clear Cell Focus |                       |
|                      |  | Fatty Change     | Diffuse, Mild         |
|                      | [ Clear Cell Focus TGLs = 1-4+5+6+11 ] |                  |                       |
| * Preputial Gland    |  | Cyst             |                       |
| Testis               | Germinal Epith                         | Degeneration     | Minimal               |
| Tooth                |  | Dental Dysplasia | Minimal               |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 139

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400588

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| Coagulating Gland         | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |                              |                       |
|---|------------------------------|-----------------------|
| * Adrenal Cortex  | Hypertrophy                  | Marked                |
| * Bone  |                              |                       |
| Note: There is marked reactive bone growth within the margins of the long bones due to marrow hemangiosarc. |                              |                       |
| * Bone Marrow   | Hemangiosarcoma              |                       |
| Coagulat GI   |                              |                       |
| Note: Coag glands are dilated but not pathological.   |                              |                       |
| * Eye   |                              |                       |
| Note: Only 1 full eye sections presented on slide 8.  |                              |                       |
| * Intestine Large, Cecum  | Pigment                      | Minimal               |
| * Islets, Pancreatic  | Hyperplasia                  | Minimal               |
| * Kidney  | Nephropathy                  | Chronicprogr, Minimal |
| * Liver   | Eosinophilic Focus           |                       |
|   | Hepatocellular Adenoma       |                       |
| [ Eosinophilic Focus TGLs = 4,5-13+14 ]   |                              |                       |
| [ Hepatocellular Adenoma TGLs = 3-12 ]  |                              |                       |
| * Lung  | Alveolar/Bronchiolar Adenoma | Multiple              |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 139

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400588

ORGAN AND ACCOUNTABLE SITE STATUS

|  |                |                      |                      |
|--|----------------|----------------------|----------------------|
| * Nose   | Olfactory Epi  | Metaplasia           | Respiratory, Minimal |
| * Preputial Gland  |                | Cyst<br>Inflammation | Suppurative, Mild    |
| * Sem Ves  |                |                      |                      |
| Note: Seminal vesicles are dilated but not pathological. |                |                      |                      |
| Testis   | Germinal Epith | Degeneration         | Minimal              |
| Tooth  |                | Dental Dysplasia     | Marked               |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 140

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400589

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |                          |                       |
|----------------------|--------------|--------------------------|-----------------------|
| * Adrenal Cortex     |              | Hypertrophy              | Minimal               |
| * Bone Marrow        |              | Hypercellularity         | Minimal               |
| * Islets, Pancreatic |              | Hyperplasia              | Mild                  |
| * Kidney             | Renal Tubule | Cyst                     |                       |
|                      |              | Nephropathy              | Chronicprogr, Minimal |
| * Liver              |              | Basophilic Focus         |                       |
|                      |              | Clear Cell Focus         |                       |
|                      |              | Eosinophilic Focus       |                       |
|                      |              | Hepatocellular Adenoma   | Multiple              |
|                      |              | Hepatocellular Carcinoma | Multiple              |
|                      |              | Infiltration Cellular    | Mixed Cell, Minimal   |

Note: Multiple foci, multiple types of foci, multiple adenomas on multiple lobes.

[ Basophilic Focus TGLs = 2-12 ]

[ Eosinophilic Focus TGLs = 5-15 ]

[ Hepatocellular Adenoma TGLs = 1,3-11+13 ]

[ Hepatocellular Carcinoma TGLs = 4-14 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 140

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400589

ORGAN AND ACCOUNTABLE SITE STATUS

|   |               |                              |                     |
|---|---------------|------------------------------|---------------------|
| * Lymph Node, Mesenteric<br>[ Hyperplasia TGLs = 6-16 ] |               | Hyperplasia                  | Plasma Cell, Marked |
| * Pituitary Gland                                       | Pars Distalis | Hyperplasia                  | Minimal             |
| * Preputial Gland                                       |               | Cyst                         |                     |
|   |               | Inflammation                 | Suppurative, Marked |
| * Spleen  |               | Extramedullary Hematopoiesis | Mild                |
| * Thymus  |               | Atrophy                      | Moderate            |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 141

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400590

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                          |              |                          |                       |
|--------------------------|--------------|--------------------------|-----------------------|
| * Bone Marrow            |              | Hypercellularity         | Minimal               |
| * Intestine Large, Cecum |              | Pigment                  | Minimal               |
| * Islets, Pancreatic     |              | Hyperplasia              | Mild                  |
| * Kidney                 |              | Mineral                  | Minimal               |
|                          |              | Nephropathy              | Chronicprogr, Minimal |
|                          | Renal Tubule | Regeneration             | Minimal               |
| * Liver                  |              | Hepatocellular Adenoma   | Multiple              |
|                          |              | Hepatocellular Carcinoma |                       |
|                          |              | Mixed Cell Focus         |                       |

Note: Fibrosis/inflammation of liver on slide 5 interpreted to be related to hepato carc, also of left lobe and presented on slide 11; therefore this was not coded.

[ Hepatocellular Adenoma TGLs = 2,3-12+13 ]

[ Hepatocellular Carcinoma TGLs = 1-11 ]

- |          |                |                              |         |
|----------|----------------|------------------------------|---------|
| * Spleen |                | Extramedullary Hematopoiesis | Minimal |
| Testis   | Germinal Epith | Degeneration                 | Minimal |
| Tooth    |                | Odontoma                     |         |

\* PROTOCOL REQUIRED TISSUE





Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 142

TRT#: 5

SEX: Male

DAY ON TEST: 649

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400591

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ORGAN AND ACCOUNTABLE SITE STATUS

---

Note: Ulcer and inflammation (not diagnosed separately) contribute to TGL-1.

Note: "Normal" inguinal skin/mammary section (slide 9) has marked leukocytosis.

[ Cyst TGLs = 1-11 ]

[ Ulcer TGLs = 1-11 ]

\* Spleen

Extramedullary Hematopoiesis

Mild

Tooth

Dental Dysplasia

Mild

---

PRIMARY CAUSE OF DEATH - Lymph Node, Mesenteric Lymphoma Malignant

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 143

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400592

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thymus                    | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                  |  |                        |                       |
|------------------|--|------------------------|-----------------------|
| * Adrenal Cortex | Subcapsular  | Hyperplasia            | Mild                  |
|                  |  | Hypertrophy            | Minimal               |
| * Kidney         | Renal Tubule   | Cyst                   |                       |
|                  |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver          |  | Hepatocellular Adenoma |                       |
|                  | Note: Part of median mass (TGL-1, slide 11) is on slide 4.<br>[ Hepatocellular Adenoma TGLs = 1-11 ] |                        |                       |
| * Thyroid Gland  | Follicle   | Degeneration           | Minimal               |
| Tooth            |  | Dental Dysplasia       | Minimal               |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 144

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400593

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Bone Marrow            |  | Hypercellularity             | Minimal               |
| * Intestine Large, Cecum |  | Pigment                      | Minimal               |
| * Islets, Pancreatic     |  | Hyperplasia                  | Mild                  |
| * Kidney                 |  | Nephropathy                  | Chronicprogr, Minimal |
|                          | Renal Tubule                             | Regeneration                 | Moderate              |
| * Liver                  |  | Eosinophilic Focus           |                       |
|                          |  | Hepatocellular Adenoma       |                       |
|                          |  | Hepatocellular Carcinoma     |                       |
|                          | [ Eosinophilic Focus TGLs = 4-14 ]       |                              |                       |
|                          | [ Hepatocellular Adenoma TGLs = 3-13 ]   |                              |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 1-11 ] |                              |                       |
| * Lung                   |  | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| * Lymph Node, Mesenteric |  | Extramedullary Hematopoiesis | Minimal               |
| * Preputial Gland        |  | Cyst                         |                       |
|                          |  | Inflammation                 | Chronic Active, Mild  |
|                          | [ Cyst TGLs = 2-12 ]                     |                              |                       |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 144

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400593

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

|          |                |                              |         |
|----------|----------------|------------------------------|---------|
| * Spleen |                | Extramedullary Hematopoiesis | Mild    |
| Testis   | Germinal Epith | Degeneration                 | Minimal |
| Tooth    |                | Dental Dysplasia             | Mild    |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 145

TRT#: 5

SEX: Male

DAY ON TEST: 724

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400594

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |               |                               |                         |
|---|---------------|-------------------------------|-------------------------|
| * Adrenal Cortex  |               | Hyperplasia                   | Minimal                 |
| Note: Only one adrenal on slide.  |               |                               |                         |
| * Bone Marrow   |               | Hypercellularity              | Minimal                 |
| * Islets, Pancreatic  |               | Hyperplasia                   | Minimal                 |
| * Kidney  | Renal Tubule  | Accumulation, Hyaline Droplet | Mild                    |
|   |               | Nephropathy                   | Chronicprogr, Moderate  |
|   |               | Pigment                       | Moderate                |
| * Liver   | Renal Tubule  | Regeneration                  | Minimal                 |
|   |               | Extramedullary Hematopoiesis  | Minimal                 |
|   |               | Hepatoblastoma                | Multiple                |
| Note: All sections/slides have significant necrosis (not Dx'ed separately) and apparent blood cysts. It is unclear if there is also a collision hemangio present. |               |                               |                         |
| [ Hepatoblastoma TGLs = 1,2,3-11+12+13 ]  |               |                               |                         |
| * Lung  |               | Hepatoblastoma                | Metastatic (Liver)      |
| * Lymph Node, Mesenteric  |               | Extramedullary Hematopoiesis  | Minimal                 |
| * Nose  | Olfactory Epi | Metaplasia                    | Respiratory, Minimal    |
| * Seminal Vesicle   |               | Inflammation                  | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 145

TRT#: 5

SEX: Male

DAY ON TEST: 724

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400594

ORGAN AND ACCOUNTABLE SITE STATUS

|          |                |                              |         |
|----------|----------------|------------------------------|---------|
| * Spleen |                | Extramedullary Hematopoiesis | Mild    |
| Testis   | Germinal Epith | Degeneration                 | Minimal |
| * Thymus |                | Atrophy                      | Marked  |

PRIMARY CAUSE OF DEATH - Liver Hepatoblastoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 146

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400595

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |              |                              |                       |
|---|--------------|------------------------------|-----------------------|
| * Adrenal Cortex  |              | Hypertrophy                  | Mild                  |
| * Islets, Pancreatic  |              | Hyperplasia                  | Moderate              |
| * Kidney  |              | Nephropathy                  | Chronicprogr, Minimal |
|   | Renal Tubule | Regeneration                 | Minimal               |
| * Liver   |              | Clear Cell Focus             |                       |
|   |              | Eosinophilic Focus           |                       |
|   | Hepatocyte   | Fatty Change                 | Focal, Minimal        |
|   |              | Hepatocellular Adenoma       | Multiple              |
|   |              | Mixed Cell Focus             |                       |
| Note: Foci on all lobes, predominate foci are focal fatty change. |              |                              |                       |
|   |              |                              |                       |
|   |              |                              |                       |
|   |              |                              |                       |
|   |              |                              |                       |
|   |              |                              |                       |
| * Lung  |              | Alveolar/Bronchiolar Adenoma |                       |
| Tooth   |              | Dental Dysplasia             | Mild                  |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 147

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 615

**DOSE:** 1000 mg/L

**DISP:** Natural Death

**HISTO:** 1400596

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Epididymis               | * Esophagus               | * Gallbladder               | * Harderian Gland        |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|  |              |                    |                         |
|--|--------------|--------------------|-------------------------|
| * Adrenal Cortex   |              | Hypertrophy        | Minimal                 |
| * Brain  |              | Necrosis           | Moderate                |
| Note: Acute neuronal necrosis present in many areas, including frontal and occipital cortex, thalamus, and hippocampus.  |              |                    |                         |
| * Eye  | Retina       | Dysplasia          | Moderate                |
|  | Cornea       | Inflammation       | Acute, Mild             |
| * Heart  |              | Mineral            | Minimal                 |
| * Intestine Large, Cecum   |              | Pigment            | Minimal                 |
| * Islets, Pancreatic   |              | Adenoma            |                         |
| Note: Slide 6 has a portion of a large islet; diagnosis of "islet adenoma" is coded, due to absence/small size of other islets and neuronal necrosis in brain. |              |                    |                         |
| * Kidney   |              | Nephropathy        | Chronicprogr, Minimal   |
|  | Renal Tubule | Regeneration       | Minimal                 |
| * Liver  |              | Eosinophilic Focus |                         |
|  | Hepatocyte   | Fatty Change       | Focal, Minimal          |
| * Lung   | Serosa       | Inflammation       | Chronic Active, Minimal |
| * Lymph Node, Mesenteric   |              | Atrophy            | Mild                    |
| Note: Congested sinuses noted.   |              |                    |                         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 147

TRT#: 5

SEX: Male

DAY ON TEST: 615

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400596

ORGAN AND ACCOUNTABLE SITE STATUS

|          |            |                  |          |
|----------|------------|------------------|----------|
| * Spleen | White Pulp | Atrophy          | Moderate |
|          | Red Pulp   | Atrophy          | Marked   |
| * Thymus |            | Atrophy          | Marked   |
| Tooth    |            | Dental Dysplasia | Minimal  |

PRIMARY CAUSE OF DEATH

- Brain Necrosis

CONTRIBUTORY CAUSE OF DEATH

- Islets, Pancreatic Adenoma

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 148

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400597

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                  |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder            |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Lymph Node, Mandibular |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland        |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                   |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                   |
| * Thymus                  | * Trachea                   | * Urinary Bladder        |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                                    |                              |                       |
|------------------------------------|------------------------------|-----------------------|
| * Adrenal Cortex                   | Extramedullary Hematopoiesis | Minimal               |
|                                    | Hypertrophy                  | Minimal               |
| * Bone Marrow                      | Hypercellularity             | Minimal               |
| * Intestine Small, Jejunum         | Lymphoma Malignant           |                       |
| [ Lymphoma Malignant TGLs = 4-14 ] |                              |                       |
| * Islets, Pancreatic               | Adenoma                      |                       |
| * Kidney                           | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                            | Clear Cell Focus             |                       |
|                                    | Eosinophilic Focus           |                       |
|                                    | Hepatocellular Adenoma       |                       |
|                                    | Mixed Cell Focus             |                       |

Note: Multiple foci on multiple lobes/sections.

[ Clear Cell Focus TGLs = 1-11 ]

[ Eosinophilic Focus TGLs = 2-12 ]

[ Hepatocellular Adenoma TGLs = 3-13 ]

[ Mixed Cell Focus TGLs = 5-15 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 148

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400597

ORGAN AND ACCOUNTABLE SITE STATUS

|                          |                                    |                              |                      |
|--------------------------|------------------------------------|------------------------------|----------------------|
| * Lung                   | Alveolar Epith                     | Hyperplasia                  | Minimal              |
| * Lymph Node, Mesenteric |                                    | Extramedullary Hematopoiesis | Minimal              |
|                          |                                    | Lymphoma Malignant           |                      |
|                          | [ Lymphoma Malignant TGLs = 6-16 ] |                              |                      |
| * Nose                   | Olfactory Epi                      | Metaplasia                   | Respiratory, Minimal |
| * Thyroid Gland          | Follicle                           | Degeneration                 | Minimal              |
| Tooth                    |                                    | Dental Dysplasia             | Moderate             |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 149

TRT#: 5

SEX: Male

DAY ON TEST: 702

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400598

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

**MISSING**

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|  |                              |                         |
|--|------------------------------|-------------------------|
| * Adrenal Cortex   | Hypertrophy                  | Minimal                 |
| * Bone Marrow  | Hypercellularity             | Minimal                 |
| * Heart  | Cardiomyopathy               | Minimal                 |
| * Islets, Pancreatic   | Hyperplasia                  | Mild                    |
| * Kidney   | Nephropathy                  | Chronicprogr, Minimal   |
|  | Pigment                      | Mild                    |
| * Liver  | Hepatoblastoma               |                         |
| Note: Apparent focus of squamous differentiation or trapped bile duct epithelium metaplasia noted within hepatoblastoma.<br>[ Hepatoblastoma TGLs = 3-12 ] |                              |                         |
| * Lung   | Alveolar/Bronchiolar Adenoma |                         |
|  | Hepatoblastoma               | Metastatic (Liver)      |
| * Prostate   | Inflammation                 | Chronic Active, Minimal |
| Note: Chronic serosal inflammation.  |                              |                         |
| Skeletal Muscle  | Hepatoblastoma               | Metastatic (Liver)      |
| [ Hepatoblastoma TGLs = 2-11 ]   |                              |                         |
| * Spleen   | Extramedullary Hematopoiesis | Mild                    |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 149

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 702

**DOSE:** 1000 mg/L

**DISP:** Natural Death

**HISTO:** 1400598

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Liver Hepatoblastoma

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Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 150

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400599

ORGAN AND ACCOUNTABLE SITE STATUS

Inflammation

Suppurative, Marked

[ Cyst TGLs = 5-15 ]

[ Inflammation TGLs = 5-15 ]

Cyst

Inflammation

Suppurative, Marked

Degeneration

Minimal

Atrophy

Marked

Dental Dysplasia

Moderate

\* Pituitary Gland

\* Preputial Gland

Testis

\* Thymus

Tooth

Germinal Epith



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 151

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400600

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |              |                    |                       |
|--------------------------|--------------|--------------------|-----------------------|
| * Adrenal Cortex         |              | Hypertrophy        | Minimal               |
| * Intestine Large, Cecum |              | Pigment            | Minimal               |
| * Islets, Pancreatic     |              | Hyperplasia        | Minimal               |
| * Kidney                 | Renal Tubule | Cyst               |                       |
|                          |              | Nephropathy        | Chronicprogr, Minimal |
|                          |              | Pigment            | Minimal               |
|                          | Renal Tubule | Regeneration       | Minimal               |
| * Liver                  |              | Clear Cell Focus   |                       |
|                          |              | Eosinophilic Focus |                       |
|                          |              | Mixed Cell Focus   |                       |

Note: Minute focus of mixed inflammatory cells present.

Note: Clear focus on slides 4 and 6 as well. Liver is heavily vacuolated, consisted with glycogen.

[ Clear Cell Focus TGLs = 1-11; 2-5+12 ]

[ Eosinophilic Focus TGLs = 1-11 ]

[ Mixed Cell Focus TGLs = 1-11 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 151

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400600

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Lung

Infiltration Cellular

Histiocyte, Minimal

Note: Increased alveolar macrophages in focus of apparent acute hemorrhage.

Tooth

Dental Dysplasia

Moderate

---

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 152

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 644

**DOSE:** 2000 mg/L

**DISP:** Natural Death

**HISTO:** 1400601

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Bone Marrow             | * Brain                     | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Nose                   | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |  |                          |                        |
|--------------------------|--|--------------------------|------------------------|
| * Epididymis             |  | Hepatocholangiocarcinoma | Metastatic (Liver)     |
| * Intestine Large, Cecum |  | Pigment                  | Minimal                |
| * Kidney                 |  | Mineral                  | Minimal                |
|                          |  | Nephropathy              | Chronicprogr, Moderate |
|                          |  | Pigment                  | Minimal                |
|                          | Renal Tubule                                 | Regeneration             | Minimal                |
| * Liver                  |  | Hepatocholangiocarcinoma |                        |
|                          | [ Hepatocholangiocarcinoma TGLs = 1-11 ]     |                          |                        |
| * Lung                   |  | Hepatocholangiocarcinoma | Metastatic (Liver)     |
|                          | [ Hepatocholangiocarcinoma TGLs = 3,4,5-13 ] |                          |                        |
| Lymph Node               |  | Hepatocholangiocarcinoma | Metastatic (Liver)     |
|                          | Note: Pancreatic node(s) affected.           |                          |                        |
|                          | [ Hepatocholangiocarcinoma TGLs = 2-12 ]     |                          |                        |
| * Lymph Node, Mesenteric |  | Hepatocholangiocarcinoma | Metastatic (Liver)     |
| Mesentery                |  | Hepatocholangiocarcinoma | Metastatic (Liver)     |
|                          | [ Hepatocholangiocarcinoma TGLs = 2-12 ]     |                          |                        |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 152

TRT#: 7

SEX: Male

DAY ON TEST: 644

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400601

ORGAN AND ACCOUNTABLE SITE STATUS

|                            |               |                              |                    |
|----------------------------|---------------|------------------------------|--------------------|
| * Pancreas                 |               | Hepatocholangiocarcinoma     | Metastatic (Liver) |
| [ Hepatocholangiocarcinoma | TGLs = 2-12 ] |                              |                    |
| * Preputial Gland          |               | Cyst                         |                    |
| * Spleen                   |               | Extramedullary Hematopoiesis | Minimal            |
| * Thymus                   |               | Atrophy                      | Marked             |
|                            |               | Hepatocholangiocarcinoma     | Metastatic (Liver) |

PRIMARY CAUSE OF DEATH - Liver Hepatocholangiocarcinoma

CONTRIBUTORY CAUSE OF DEATH - Lung Hepatocholangiocarcinoma Liver

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 153

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400602

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                |                          |                          |
|--|----------------|--------------------------|--------------------------|
| * Adrenal Cortex   |                | Hyperplasia              | Minimal                  |
| * Intestine Large, Cecum   |                | Pigment                  | Minimal                  |
| * Kidney   |                | Nephropathy              | Chronicprogr, Mild       |
|  |                | Pigment                  | Minimal                  |
|  | Renal Tubule   | Regeneration             | Mild                     |
| * Liver  | Bile Duct      | Cyst                     |                          |
|  |                | Hepatocellular Carcinoma |                          |
| Note: Bile cyst diagnosed for TGL-2; gross color (dark) and internalized pigment-colored macrophages are consistent with bile duct cyst. |                |                          |                          |
| Note: TGL-1 coded as hepato CA due to very slight trabecularization.   |                |                          |                          |
| [ Cyst TGLs = 2-12 ]   |                |                          |                          |
| [ Hepatocellular Carcinoma TGLs = 1-11 ]   |                |                          |                          |
| * Nose   | Olfactory Epi  | Metaplasia               | Respiratory, Minimal     |
| * Preputial Gland  |                | Cyst                     |                          |
|  |                | Inflammation             | Chronic Active, Moderate |
| * Stomach, Glandular   | Epithelium     | Degeneration             | Minimal                  |
| Testis   | Germinal Epith | Degeneration             | Mild                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 154

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400603

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| Testis                    | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |               |                          |                      |
|---|---------------|--------------------------|----------------------|
| * Bone Marrow   |               | Hypercellularity         | Mild                 |
| * Intestine Large, Cecum  |               | Pigment                  | Minimal              |
| * Islets, Pancreatic  |               | Hyperplasia              | Minimal              |
| * Kidney  |               | Infarct                  | Minimal              |
|   |               | Mineral                  | Minimal              |
|   |               | Nephropathy              | Chronicprogr, Mild   |
|   | Renal Tubule  | Pigment                  | Minimal              |
|   |               | Regeneration             | Minimal              |
| * Liver   |               | Hepatocellular Carcinoma |                      |
| Note: TGL-1 is necrotic (accounting for green color at gross), probably due to torsion of the nodule.         |               |                          |                      |
| Note: Nodule is 99% adenoma and 1% trabecular pattern greater than 3 cell cords, so dx rendered of carcinoma. |               |                          |                      |
| [ Hepatocellular Carcinoma TGLs = 1-11 ]  |               |                          |                      |
| * Nose  | Olfactory Epi | Metaplasia               | Respiratory, Minimal |
| * Pituitary Gland   |               | Cyst                     |                      |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 155

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400604

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Liver                     | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                     |              |                  |                    |
|---------------------|--------------|------------------|--------------------|
| * Heart             |              | Cardiomyopathy   | Minimal            |
| * Kidney            |              | Cyst             |                    |
|                     |              | Nephropathy      | Chronicprogr, Mild |
|                     |              | Pigment          | Minimal            |
|                     | Renal Tubule | Regeneration     | Minimal            |
| * Preputial Gland   |              | Cyst             |                    |
| [ Cyst TGLs = 1-9 ] |              |                  |                    |
| Tooth               |              | Dental Dysplasia | Mild               |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 156

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400605

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |   |  |                                |                       |
|---|--|--------------------------------|-----------------------|
| * Bone                                  |  | Fibro-Osseous Lesion           | Minimal               |
| * Intestine Large, Cecum                |  | Pigment                        | Minimal               |
| * Int Sm Jejunum                        |  |                                |                       |
| Note: Mineral noted in peyer's patch.   |  |                                |                       |
| * Islets, Pancreatic                    |  | Hyperplasia                    | Mild                  |
| * Kidney                                |  | Cyst                           |                       |
|   |  | Nephropathy                    | Chronicprogr, Minimal |
|   |  | Pigment                        | Minimal               |
|   | Renal Tubule                                   | Regeneration                   | Minimal               |
| * Liver                                 |  | Clear Cell Focus               |                       |
|   |  | Hepatocellular Adenoma         | Multiple              |
| Note: Multiple clear foci on all lobes. |  |                                |                       |
|   | [ Hepatocellular Adenoma TGLs = 2,3-11+4 ]     |                                |                       |
| * Lung                                  |  | Alveolar/Bronchiolar Carcinoma |                       |
|   | [ Alveolar/Bronchiolar Carcinoma TGLs = 4-12 ] |                                |                       |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 156

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400605

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ORGAN AND ACCOUNTABLE SITE STATUS

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|  |     |                  |        |
|--|-----|------------------|--------|
| Mesentery<br>[ Necrosis TGLs = 5-13 ]    | Fat | Necrosis         | Marked |
| * Preputial Gland<br>[ Cyst TGLs = 1-9 ] |     | Cyst             |        |
| Tooth                                    |     | Dental Dysplasia | Mild   |

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**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 157

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400606

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Liver                   | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |                      |                  |                       |
|--------------------------|----------------------|------------------|-----------------------|
| * Bone Marrow            |                      | Hypocellularity  | Mild                  |
| * Intestine Large, Cecum |                      | Pigment          | Minimal               |
| * Islets, Pancreatic     |                      | Adenoma          |                       |
| * Kidney                 |                      | Cyst             |                       |
|                          |                      | Nephropathy      | Chronicprogr, Minimal |
|                          |                      | Pigment          | Minimal               |
|                          | Renal Tubule         | Regeneration     | Minimal               |
|                          | [ Cyst TGLs = 1-12 ] |                  |                       |
| * Preputial Gland        |                      | Inflammation     | Chronic Active, Mild  |
| Tooth                    |                      | Dental Dysplasia | Minimal               |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 158

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400607

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                        |                       |
|--------------------------|--|------------------------|-----------------------|
| * Bone Marrow            |  | Hypercellularity       | Minimal               |
| * Islets, Pancreatic     |  | Hyperplasia            | Minimal               |
| * Kidney                 |  | Nephropathy            | Chronicprogr, Minimal |
|                          |  | Pigment                | Minimal               |
| * Liver                  |  | Basophilic Focus       |                       |
|                          |  | Hepatocellular Adenoma | Multiple              |
|                          | Note: Several basophilic-staining foci without compression noted in and around similar appearing compressing mass, which was coded for TGL-1 (slides 4 and 11).<br>[ Hepatocellular Adenoma TGLs = 1,2-11+12 ] |                        |                       |
| * Lymph Node, Mesenteric |  | Hyperplasia            | Lymphocyte, Moderate  |
|                          | Note: Scattered plasma cells, histiocytes and rare PMN's also present in Mes Lymph Node.<br>[ Hyperplasia TGLs = 3-12 ]  |                        |                       |
| * Nose                   | Olfactory Epi  | Metaplasia             | Respiratory, Minimal  |
| * Stom Gland             |  |                        |                       |
|                          | Note: Focal minute cyst within glandular epithelium.   |                        |                       |
| Tooth                    |  | Dental Dysplasia       | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 159

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400608

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |   |                       |         |
|--|---|-----------------------|---------|
| * Bone Marrow  | Hypercellularity                            | Minimal               |         |
| * Heart  | Cardiomyopathy                              | Minimal               |         |
| * Kidney   | Nephropathy                                 | Chronicprogr, Minimal |         |
|  | Pigment                                     | Minimal               |         |
|  | Renal Tubule                                | Regeneration          | Minimal |
| Note: Histo sarc usually induces renal tubular eosinophilic droplets, but not in this case; believed to be very early histo sarc regardless. |   |                       |         |
| * Liver  | Extramedullary Hematopoiesis                | Minimal               |         |
|  | Hepatocellular Adenoma                      | Multiple              |         |
|  | Histiocytic Sarcoma                         |                       |         |
|  | Mixed Cell Focus                            |                       |         |
| Note: Histiocytic cells in sinusoids and blood vessels consistent with very, very early histo sarc.  |   |                       |         |
|  | [ Hepatocellular Adenoma TGLs = 1,2-11+12 ] |                       |         |
|  | [ Mixed Cell Focus TGLs = 3-13 ]            |                       |         |
| * Lung   | Histiocytic Sarcoma                         |                       |         |
| * Lymph Node, Mesenteric   | Histiocytic Sarcoma                         |                       |         |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 159

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400608

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: Histo sarc cells in sinuses consistent with very early histo sarc.

\* Spleen  
\* Thymus  
Tooth

Histiocytic Sarcoma  
Histiocytic Sarcoma  
Dental Dysplasia

Minimal

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 160

TRT#: 7

SEX: Male

DAY ON TEST: 713

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400609

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Liver                   | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | Testis                      | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |  |                              |                      |
|---|--|------------------------------|----------------------|
| * Intestine Large, Cecum  |  | Pigment                      | Minimal              |
| * Islets, Pancreatic  |  | Hyperplasia                  | Minimal              |
| * Kidney  |  | Nephropathy                  | Chronicprogr, Mild   |
|   |  | Pigment                      | Minimal              |
|   | Renal Tubule                                 | Regeneration                 | Mild                 |
| * Lung  |  | Alveolar/Bronchiolar Adenoma |                      |
| Note: Although size is massive, tumor coded "adenoma" because of uniform cell size, lack of mitoses, lack of invasion and metastasis that is typical of carc.         |  |                              |                      |
| Note: Abundant large, eosinophilic alveolar macrophages and lymphocytes fill many airways, typical of large pulmonary AB tumors. This infiltrate not DXed separately. |  |                              |                      |
|   | [ Alveolar/Bronchiolar Adenoma TGLs = 1-11 ] |                              |                      |
| * Nose  | Olfactory Epi                                | Metaplasia                   | Respiratory, Minimal |
| * Preputial Gland   |  | Cyst                         |                      |

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Adenoma

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 161

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1300610

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|  |              |                        |                    |
|--|--------------|------------------------|--------------------|
| * Adrenal Cortex   |              | Hypertrophy            | Minimal            |
| * Intestine Large, Cecum                                     |              | Pigment                | Minimal            |
| Note: Clusters of highly pigmented macrophages in submucosa. |              |                        |                    |
| * Islets, Pancreatic   |              | Hyperplasia            | Minimal            |
| * Kidney   | Renal Tubule | Cyst                   |                    |
|  |              | Nephropathy            | Chronicprogr, Mild |
|  |              | Pigment                | Minimal            |
|  | Renal Tubule | Regeneration           | Minimal            |
| Note: Focal heterotopic bone noted.                          |              |                        |                    |
| * Liver  |              | Clear Cell Focus       |                    |
|  |              | Eosinophilic Focus     |                    |
|  | Hepatocyte   | Fatty Change           | Focal, Mild        |
|  |              | Hepatocellular Adenoma |                    |
| Note: Multiple foci on various lobes.                        |              |                        |                    |
| Note: Hepato adenoma on slide 5.                             |              |                        |                    |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 161

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1300610

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ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Eosinophilic Focus TGLs = 1-12 ]

[ Fatty Change TGLs = 2-13 ]

|                                    |                |                  |          |
|------------------------------------|----------------|------------------|----------|
| * Lung                             | Alveolar Epith | Hyperplasia      | Moderate |
| * Stom Gland                       |                |                  |          |
| Note: Minute glandular cyst noted. |                |                  |          |
| Tooth                              |                | Dental Dysplasia | Mild     |

---



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 162

TRT#: 7

SEX: Male

DAY ON TEST: 407

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400611

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |            |              |                       |
|---|------------|--------------|-----------------------|
| * Adrenal Cortex  |            | Hypertrophy  | Minimal               |
| * Heart   | Valve      | Inflammation | Suppurative, Minimal  |
| Note: Marked bacterial colonization of aortic valve with minimal inflammation indicating bacteria were present anti-mortem. |            |              |                       |
| Note: Cause of death interpreted to be due to septicemia, cause unknown.  |            |              |                       |
| * Kidney  |            | Nephropathy  | Chronicprogr, Minimal |
| * Liver   |            | Fatty Change | Diffuse, Minimal      |
|   | Hepatocyte | Necrosis     | Minimal               |
| Note: Focus of fatty change also noted but cannot code since diffuse fatty change is already entered.                       |            |              |                       |
| * Spleen  | Red Pulp   | Atrophy      | Moderate              |
|   | White Pulp | Atrophy      | Mild                  |

**PRIMARY CAUSE OF DEATH**

- Heart Valve Inflammation

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 163

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400612

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     |
| * Thymus                  | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |              |                          |                        |
|---|--------------|--------------------------|------------------------|
| * Adrenal Cortex                              |              | Hypertrophy              | Minimal                |
| * Epididymis                                  |              |                          |                        |
| Note: Degenerate cells noted in epididymis.   |              |                          |                        |
| * Intestine Large, Cecum                      |              | Pigment                  | Minimal                |
| * Kidney                                      |              | Nephropathy              | Chronicprogr, Moderate |
|   |              | Pigment                  | Minimal                |
|   | Renal Tubule | Regeneration             | Moderate               |
| Note: Ectopic bone noted.                     |              |                          |                        |
| * Liver                                       |              | Hepatocellular Carcinoma | Multiple               |
| [ Hepatocellular Carcinoma TGLs = 1,2-11+12 ] |              |                          |                        |
| * Preputial Gland                             |              | Cyst                     |                        |
| * Thyroid Gland                               | Follicle     | Degeneration             | Minimal                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 164

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400613

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                                |                |  |                     |
|--------------------------------|----------------|--|---------------------|
| * Bone Marrow                  |                | Hypercellularity                         | Minimal             |
| * Islets, Pancreatic           |                | Hyperplasia                              | Mild                |
| * Kidney                       |                | Nephropathy                              | Chronicprogr, Mild  |
|                                |                | Pigment                                  | Minimal             |
|                                | Renal Tubule   | Regeneration                             | Minimal             |
| * Liver                        |                | Clear Cell Focus                         |                     |
|                                |                | Hepatocellular Adenoma                   | Multiple            |
|                                |                | Mixed Cell Focus                         |                     |
| Note: Clear foci on all lobes. |                |  |                     |
|                                |                | [ Clear Cell Focus TGLs = 2-11+12 ]      |                     |
|                                |                | [ Hepatocellular Adenoma TGLs = 1,3-11 ] |                     |
| * Pituitary Gland              |                | Cyst                                     |                     |
| * Preputial Gland              |                | Inflammation                             | Suppurative, Marked |
| Testis                         | Germinal Epith | Degeneration                             | Minimal             |
| Tooth                          |                | Dental Dysplasia                         | Mild                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 165

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400614

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                          |                           |                             |                          |
|--------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow            | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                    | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Islets, Pancreatic     | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Nose                   | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland        | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                   | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                 | * Trachea                 | * Urinary Bladder           |                          |

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

\* Epididymis

Note: One epididymis is devoid of sperm, related to unilateral testicular atrophy.

\* Intestine Large, Cecum

\* Intestine Small, Jejunum

\* Kidney

Peyers Patch

Renal Tubule

\* Liver

\* Lung

Note: Very minute area of alveolar cell hyperplasia noted in association of increased alveolar macrophages. Unclear which came first; hyperplasia chosen.

Testis

Note: Unilateral atrophy.

\* Thyroid Gland

Tooth

Germinal Epith

Follicle

Pigment

Hyperplasia

Cyst

Mineral

Nephropathy

Pigment

Regeneration

Infiltration Cellular

Hyperplasia

Degeneration

Degeneration

Dental Dysplasia

Minimal

Mild

Minimal

Chronicprogr, Minimal

Minimal

Minimal

Mixed Cell, Minimal

Minimal

Moderate

Minimal

Minimal

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 166

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400615

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Bone Marrow             | * Brain                     | * Epididymis             | * Esophagus                |
| * Eye                     | * Gallbladder               | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | Testis                      | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |                          |              |                    |                    |
|--------------------------|--------------|--------------------|--------------------|
| * Harderian Gland        |              | Adenoma            |                    |
| [ Adenoma TGLs = 6-8 ]   |              |                    |                    |
| * Intestine Large, Cecum |              | Pigment            | Minimal            |
| * Islets, Pancreatic     |              | Hyperplasia        | Minimal            |
| * Kidney                 | Renal Tubule | Cyst               |                    |
|                          |              | Infarct            | Minimal            |
|                          |              | Nephropathy        | Chronicprogr, Mild |
|                          |              | Pigment            | Minimal            |
|                          | Renal Tubule | Regeneration       | Minimal            |
| [ Cyst TGLs = 1-11 ]     |              |                    |                    |
| * Liver                  |              | Clear Cell Focus   |                    |
|                          |              | Eosinophilic Focus |                    |
|                          |              | Mixed Cell Focus   |                    |

Note: There are multiple foci of multiple morphologies on most liver slides; various foci correspond to specific TGLs, but these are not inclusive.

[ Clear Cell Focus TGLs = 3-13; 5-15 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 166

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400615

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Eosinophilic Focus TGLs = 4-14 ]

[ Mixed Cell Focus TGLs = 2-12 ]

|                                |                |                  |          |
|--------------------------------|----------------|------------------|----------|
| * Nose                         | Respirat Epith | Hyperplasia      | Minimal  |
| * Preputial Gland              |                | Hyperplasia      | Minimal  |
| Note: Focal hyperplasia noted. |                |                  |          |
| Tooth                          |                | Dental Dysplasia | Moderate |

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 167

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400616

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | Mesentery                 | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| Testis                     | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                |                  |                       |
|--------------------------|----------------|------------------|-----------------------|
| * Intestine Large, Cecum |                | Pigment          | Minimal               |
| * Islets, Pancreatic     |                | Hyperplasia      | Minimal               |
| * Kidney                 |                | Nephropathy      | Chronicprogr, Minimal |
|                          |                | Pigment          | Minimal               |
| * Liver                  |                | Basophilic Focus |                       |
| * Nose                   | Respirat Epith | Hyperplasia      | Mild                  |
| * Seminal Vesicle        |                | Carcinoma        |                       |
| Tooth                    |                | Dental Dysplasia | Mild                  |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 168

TRT#: 7

SEX: Male

DAY ON TEST: 424

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400617

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

**MISSING**

\* Lymph Node, Mesenteric      \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|               |              |                            |          |
|---------------|--------------|----------------------------|----------|
| * Bone Marrow |              | Hypercellularity           | Mild     |
| * Kidney      |              | Pigment                    | Minimal  |
|               | Renal Tubule | Regeneration               | Mild     |
| * Liver       |              | Hemangiosarcoma            |          |
|               |              | Hepatodiaphragmatic Nodule |          |
|               | Hepatocyte   | Necrosis                   | Moderate |

Note: TGL-2: There is a deformity with some hepatocyte necrosis within it that is presumed to be the micro representation of this gross (tan) nodule.

Note: Unclear if TGL-1 mass was isolated island of liver or previously attached to one of the liver lobes.

Note: TGL-1 is not lymph node; mass is an aggressive hemangiosarcoma, dissecting hepatic cords. Attached to mass is pancreas and mesentery.

[ Hemangiosarcoma TGLs = 1-11 ]

[ Hepatodiaphragmatic Nodule TGLs = 2-12 ]

\* Lung

Note: Islands of hepatocytes noted in many capillaries; these liver cells are not true cancerous metastases, but are dissected cells from hemangiosarc on slide 11.

|          |            |                              |        |
|----------|------------|------------------------------|--------|
| * Spleen | White Pulp | Atrophy                      | Marked |
|          |            | Extramedullary Hematopoiesis | Mild   |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 168

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 424

**DOSE:** 2000 mg/L

**DISP:** Natural Death

**HISTO:** 1400617

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Moderate

---

PRIMARY CAUSE OF DEATH

- Liver Hemangiosarcoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 169

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400618

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Epididymis             | * Esophagus                | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 | * Pituitary Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    |
| * Thymus                    | * Trachea                | * Urinary Bladder          |                           |

MISSING

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |                                    |                    |                       |
|----------------------|------------------------------------|--------------------|-----------------------|
| * Bone Marrow        |                                    | Hypercellularity   | Minimal               |
| * Eye                |                                    | Phthisis Bulbi     |                       |
|                      | [ Phthisis Bulbi TGLs = 2-8 ]      |                    |                       |
| * Harderian Gland    |                                    | Adenoma            |                       |
|                      | [ Adenoma TGLs = 1-8 ]             |                    |                       |
| * Islets, Pancreatic |                                    | Hyperplasia        | Minimal               |
| * Kidney             |                                    | Cyst               |                       |
|                      |                                    | Nephropathy        | Chronicprogr, Minimal |
|                      |                                    | Pigment            | Minimal               |
|                      | Renal Tubule                       | Regeneration       | Minimal               |
| * Liver              |                                    | Eosinophilic Focus |                       |
|                      | [ Eosinophilic Focus TGLs = 3-11 ] |                    |                       |
| * Nose               | Respirat Epith                     | Hyperplasia        | Mild                  |
|                      | Olfactory Epi                      | Metaplasia         | Respiratory, Minimal  |
| * Preputial Gland    |                                    | Inflammation       | Suppurative, Marked   |
| * Thyroid Gland      | Follicle                           | Degeneration       | Minimal               |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 169

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400618

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Minimal

---

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 170

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400619

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |

**MISSING**

\* Mammary Gland

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |  |                        |                         |
|--------------------------|--|------------------------|-------------------------|
| * Adrenal Cortex         | Subcapsular                            | Hyperplasia            | Marked                  |
|                          |  | Hypertrophy            | Minimal                 |
| * Intestine Large, Cecum |  | Pigment                | Minimal                 |
| * Islets, Pancreatic     |  | Hyperplasia            | Minimal                 |
| * Kidney                 |  | Nephropathy            | Chronicprogr, Minimal   |
|                          |  | Pigment                | Minimal                 |
|                          | Renal Tubule                           | Regeneration           | Minimal                 |
| * Liver                  |  | Clear Cell Focus       |                         |
|                          |  | Eosinophilic Focus     |                         |
|                          | Hepatocyte                             | Fatty Change           | Focal, Minimal          |
|                          |  | Hepatocellular Adenoma |                         |
|                          | [ Hepatocellular Adenoma TGLs = 1-12 ] |                        |                         |
| * Lung                   | Alveolar Epith                         | Hyperplasia            | Minimal                 |
| * Preputial Gland        |  | Inflammation           | Chronic Active, Minimal |
| Testis                   | Germinal Epith                         | Degeneration           | Minimal                 |
| * Thyroid Gland          | Follicle                               | Degeneration           | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 170

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400619

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia  
Inflammation

Mild  
Suppurative, Mild

Note: Abscess noted within tooth.

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 171

TRT#: 7

SEX: Male

DAY ON TEST: 599

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400620

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                |                          |                      |
|--|----------------|--------------------------|----------------------|
| * Epididymis                             |                | Atrophy                  | Moderate             |
| Note: Atrophy = decreased spermatozoa.   |                |                          |                      |
| * Kidney                                 |                | Cyst                     |                      |
|  |                | Metaplasia               | Osseous, Minimal     |
|  |                | Nephropathy              | Chronicprogr, Marked |
|  |                | Pigment                  | Minimal              |
| Note: Focus of heterotopic bone present. |                |                          |                      |
| * Liver                                  |                | Hepatocellular Carcinoma |                      |
|  | Hepatocyte     | Necrosis                 | Mild                 |
| [ Hepatocellular Carcinoma TGLs = 1-11 ] |                |                          |                      |
| * Lung                                   |                | Hepatocellular Carcinoma | Metastatic (Liver)   |
| * Preputial Gland                        |                | Cyst                     |                      |
| * Spleen                                 | White Pulp     | Atrophy                  | Moderate             |
|  | Red Pulp       | Atrophy                  | Moderate             |
| Testis                                   | Germinal Epith | Degeneration             | Minimal              |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 171

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 599

**DOSE:** 2000 mg/L

**DISP:** Moribund Sacrifice

**HISTO:** 1400620

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 172

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400621

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Gallbladder               | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | Testis                     | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |              |                        |                    |
|---|--------------|------------------------|--------------------|
| * Adrenal Cortex  |              | Hyperplasia            | Minimal            |
| * Brain   |              |                        |                    |
| Note: Similar appearance to lipomatous hamartoma, however there is slight compression and lipocytes are not dead center in brain section. |              |                        |                    |
| Note: Interpretation is that this is not a true hamartoma, but rather a sectioning artifact.  |              |                        |                    |
| * Harderian Gland   |              | Adenoma                |                    |
| * Intestine Large, Cecum  |              | Pigment                | Minimal            |
| * Islets, Pancreatic  |              | Hyperplasia            | Minimal            |
| * Kidney  |              | Infarct                | Minimal            |
|   |              | Nephropathy            | Chronicprogr, Mild |
|   |              | Pigment                | Minimal            |
|   | Renal Tubule | Regeneration           | Minimal            |
|   |              | Thrombus               |                    |
| * Liver   |              | Basophilic Focus       |                    |
|   |              | Clear Cell Focus       |                    |
|   |              | Eosinophilic Focus     |                    |
|   |              | Hepatocellular Adenoma | Multiple           |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 172

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400621

ORGAN AND ACCOUNTABLE SITE STATUS

|                                |                                |                              |                         |
|--------------------------------|--------------------------------|------------------------------|-------------------------|
| [ Eosinophilic Focus           | TGLs = 1-12 ]                  |                              |                         |
| [ Hepatocellular Adenoma       | TGLs = 2, 3, 4, 6-11+13+13+6 ] |                              |                         |
| * Lung                         |                                | Alveolar/Bronchiolar Adenoma |                         |
| [ Alveolar/Bronchiolar Adenoma | TGLs = 5-14 ]                  |                              |                         |
| * Nose                         | Olfactory Epi                  | Metaplasia                   | Respiratory, Minimal    |
| * Pituitary Gland              | Pars Distalis                  | Hyperplasia                  | Minimal                 |
| * Preputial Gland              |                                | Inflammation                 | Chronic Active, Minimal |
| Tooth                          |                                | Dental Dysplasia             | Moderate                |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 173

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400622

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | Testis                   | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                                |                       |
|--------------------------|--|--------------------------------|-----------------------|
| * Adrenal Cortex         |  | Hyperplasia                    | Minimal               |
| * Bone Marrow            |  | Hypercellularity               | Minimal               |
| * Intestine Large, Cecum |  | Pigment                        | Minimal               |
| * Islets, Pancreatic     |  | Hyperplasia                    | Minimal               |
| * Kidney                 |  | Nephropathy                    | Chronicprogr, Minimal |
|                          |  | Pigment                        | Minimal               |
|                          | Renal Tubule   | Regeneration                   | Mild                  |
| * Liver                  |  | Eosinophilic Focus             |                       |
|                          |  | Hepatocellular Carcinoma       |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 1-11 ]   |                                |                       |
| * Lung                   |  | Alveolar/Bronchiolar Carcinoma |                       |
|                          |  | Infiltration Cellular          | Histiocyte, Marked    |
|                          | Note: Marked reactive macrophage and lymphocyte response to AB carcinoma present in all remaining lobes. |                                |                       |
|                          | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-12 ]   |                                |                       |
| * Stom Gland             |  |                                |                       |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 173

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400622

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Note: Dilated gland noted of no significance.

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 174

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400623

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Bone Marrow               |
| * Brain                  | * Epididymis               | * Esophagus               | * Gallbladder               |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |              |                          |                      |
|---|--------------|--------------------------|----------------------|
| * Adrenal Cortex  |              | Hypertrophy              | Minimal              |
| * Eye   | Lens         | Cataract                 | Moderate             |
| Note: Unilateral.   |              |                          |                      |
| * Harderian Gland   |              | Adenoma                  |                      |
| [ Adenoma TGLs = 5-14 ]   |              |                          |                      |
| * Heart   |              | Cardiomyopathy           | Minimal              |
| * Islets, Pancreatic  |              | Hyperplasia              | Minimal              |
| * Kidney  | Renal Tubule | Cyst                     |                      |
|   |              | Nephropathy              | Chronicprogr, Marked |
|   |              | Pigment                  | Minimal              |
| [ Cyst TGLs = 4-13 ]  |              |                          |                      |
| * Liver   |              | Hepatocellular Carcinoma |                      |
|   |              | Karyomegaly              | Mild                 |
|   | Hepatocyte   | Necrosis                 | Mild                 |
| Note: Necrosis is multifocal, on multiple lobes.  |              |                          |                      |
| Note: Numerous clusters of enlarged, atypical hepatocytes containing large eosinophilic vacuoles. |              |                          |                      |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 174

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400623

ORGAN AND ACCOUNTABLE SITE STATUS

|                            |                |                  |                         |
|----------------------------|----------------|------------------|-------------------------|
| [ Hepatocellular Carcinoma | TGLs = 1-11 ]  |                  |                         |
| [ Necrosis                 | TGLs = 2-12 ]  |                  |                         |
| * Preputial Gland          |                | Inflammation     | Chronic Active, Minimal |
| * Spleen                   | Red Pulp       | Atrophy          | Mild                    |
|                            | White Pulp     | Atrophy          | Mild                    |
| Testis                     | Germinal Epith | Degeneration     | Moderate                |
| [ Degeneration             | TGLs = 3-10 ]  |                  |                         |
| Tooth                      |                | Dental Dysplasia | Minimal                 |

Animal Note: All organs are small for age of mouse, indicating prolonged inanition, presumably due to severe renal disease.

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 175

TRT#: 7

SEX: Male

DAY ON TEST: 680

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400624

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Brain                  |
| * Epididymis               | * Esophagus               | * Gallbladder               | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Pancreas               |
| * Pituitary Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

**MISSING**

|                 |                     |          |
|-----------------|---------------------|----------|
| * Mammary Gland | * Parathyroid Gland | * Thymus |
|-----------------|---------------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |        |                              |                       |
|---|--------|------------------------------|-----------------------|
| * Bone  |        | Fibro-Osseous Lesion         | Minimal               |
| * Bone Marrow   |        | Hypercellularity             | Minimal               |
| * Eye   | Lens   | Cataract                     | Minimal               |
|   | Cornea | Inflammation                 | Acute, Minimal        |
| Note: Ulceration of cornea also present.  |        |                              |                       |
| Note: Cataracts are bilateral.  |        |                              |                       |
| * Harderian Gland   |        | Inflammation                 | Suppurative, Minimal  |
| * Intestine Large, Cecum  |        | Pigment                      | Minimal               |
| * Kidney  |        | Nephropathy                  | Chronicprogr, Marked  |
|   |        | Pigment                      | Minimal               |
| * Liver   |        | Atypia Cellular              | Minimal               |
|   |        | Hepatocellular Carcinoma     |                       |
| Note: Significant angiectasis present within a focus of the adenoma (not diagnosed separately). |        |                              |                       |
| [ Hepatocellular Carcinoma TGLs = 1-11 ]  |        |                              |                       |
| * Lung  |        | Alveolar/Bronchiolar Adenoma |                       |
| * Lymph Node, Mesenteric  |        | Atrophy                      | Moderate              |
|   |        | Hyperplasia                  | Plasma Cell, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 175

TRT#: 7

SEX: Male

DAY ON TEST: 680

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400624

ORGAN AND ACCOUNTABLE SITE STATUS

|                                      |                |                  |          |
|--------------------------------------|----------------|------------------|----------|
| * Nose                               | Respirat Epith | Hyperplasia      | Minimal  |
| * Preputial Gland                    |                | Cyst             |          |
| Note: Only one preputial on slide 9. |                |                  |          |
| * Spleen                             | White Pulp     | Atrophy          | Moderate |
| Testis                               | Germinal Epith | Degeneration     | Marked   |
| [ Degeneration TGLs = 2-12 ]         |                |                  |          |
| Tooth                                |                | Dental Dysplasia | Minimal  |

PRIMARY CAUSE OF DEATH - Kidney Nephropathy

Animal Note: All organs are small for age of mouse, indicating atrophy/inanition due to renal disease.

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 176

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400625

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                        |                       |
|--|------------------------|-----------------------|
| * Adrenal Cortex   | Hypertrophy            | Minimal               |
| * Intestine Large, Cecum   | Pigment                | Minimal               |
| * Int Sm Jejunum   |                        |                       |
| Note: Mineralized concretions present in Peyer's patch.  |                        |                       |
| * Islets, Pancreatic   | Hyperplasia            | Mild                  |
| * Kidney   | Metaplasia             | Osseous, Minimal      |
|  | Nephropathy            | Chronicprogr, Minimal |
|  | Pigment                | Minimal               |
|  | Renal Tubule           | Minimal               |
|  | Regeneration           |                       |
| Note: Ectopic bone noted.  |                        |                       |
| Note: "Cysts" [TGL-1,2] not represented on presented slide; however "cysts" would be consistent with nephropathy, generally, as small cysts are typical. |                        |                       |
| * Liver  | Clear Cell Focus       |                       |
|  | Eosinophilic Focus     |                       |
|  | Hepatocellular Adenoma |                       |

Note: Multiple eos and clear foci on multiple lobes/sections.

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 176

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400625

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

|                          |                |                               |          |
|--------------------------|----------------|-------------------------------|----------|
| [ Hepatocellular Adenoma | TGLs = 3-14 ]  |                               |          |
| * Nose                   | Respirat Epith | Accumulation, Hyaline Droplet | Minimal  |
|                          | Respirat Epith | Hyperplasia                   | Minimal  |
| * Thyroid Gland          | Follicle       | Degeneration                  | Minimal  |
| Tooth                    |                | Dental Dysplasia              | Moderate |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 177

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400626

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

- \* Mammary Gland

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- \* Bone Marrow  
 Note: Increased marrow fat when compared to other mice of this age and sex.
- \* Epididymis  
 Note: Epididymides contain degenerate cells from testes.
- \* Intestine Large, Cecum
- \* Kidney
 

|              |              |                      |
|--------------|--------------|----------------------|
| Renal Tubule | Pigment      | Minimal              |
|              | Cyst         |                      |
|              | Mineral      | Minimal              |
|              | Nephropathy  | Chronicprogr, Marked |
|              | Pigment      | Minimal              |
| Renal Tubule | Regeneration | Minimal              |
- \* Liver
 

|  |                          |                     |
|--|--------------------------|---------------------|
|  | Clear Cell Focus         |                     |
|  | Hepatocellular Carcinoma |                     |
|  | Infiltration Cellular    | Mixed Cell, Minimal |
- [ Hepatocellular Carcinoma TGLs = 1-11 ]
- \* Nose
 

|               |            |                      |
|---------------|------------|----------------------|
| Olfactory Epi | Metaplasia | Respiratory, Minimal |
|---------------|------------|----------------------|

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 177

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400626

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Hemangiosarcoma

\* Stom Gland

Note: Dilated gland noted.

Testis

Germinal Epith

Degeneration

Moderate

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 178

TRT#: 7

SEX: Male

DAY ON TEST: 568

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400627

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Brain                    | * Epididymis              |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |  |                              |                       |
|---|--|------------------------------|-----------------------|
| * Adrenal Cortex  |  | Hypertrophy                  | Minimal               |
| Blood Vessel  | Aorta                                  | Necrosis                     | Moderate              |
| Note: Necrosis of wall of aorta with inflammation noted on heart section (slide 4). |  |                              |                       |
| * Bone Marrow   |  | Hypercellularity             | Mild                  |
| * Islets, Pancreatic  |  | Hyperplasia                  | Mild                  |
| * Kidney  |  | Nephropathy                  | Chronicprogr, Minimal |
| * Liver   | Hepatocyte                             | Fatty Change                 | Focal, Minimal        |
|   |  | Hepatocellular Adenoma       |                       |
|   |  | Mixed Cell Focus             |                       |
|   | Hepatocyte                             | Necrosis                     | Minimal               |
|   | [ Hepatocellular Adenoma TGLs = 1-11 ] |                              |                       |
| * Lung  |  | Alveolar/Bronchiolar Adenoma |                       |
| * Spleen  |  | Extramedullary Hematopoiesis | Mild                  |
| Tooth   |  | Dental Dysplasia             | Mild                  |

PRIMARY CAUSE OF DEATH - Blood Vessel Aorta Necrosis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 179

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400628

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Salivary Glands           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thyroid Gland             | * Trachea                |                            |

MISSING

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |  |  |                        |                      |
|--|--|------------------------|----------------------|
| * Bone Marrow  |  | Hypercellularity       | Minimal              |
| * Epididymis   |  |                        |                      |
| Note: Diffuse aspermia.  |  |                        |                      |
| * Intestine Large, Cecum   |  | Pigment                | Minimal              |
| * Kidney   | Pelvis                                 | Inflammation           | Suppurative, Minimal |
|  |  | Nephropathy            | Chronicprogr, Marked |
|  |  | Pigment                | Minimal              |
|  | Renal Tubule                           | Regeneration           | Minimal              |
|  | [ Nephropathy TGLs = 1-5 ]             |                        |                      |
| * Liver  |  | Basophilic Focus       |                      |
|  |  | Hepatocellular Adenoma |                      |
| Note: Baso focus on slide 4 may be extension of adenoma presented on slide 11. |  |                        |                      |
|  | [ Hepatocellular Adenoma TGLs = 3-11 ] |                        |                      |
| * Lymph Node, Mandibular   |  | Atrophy                | Moderate             |
| * Lymph Node, Mesenteric   |  | Atrophy                | Moderate             |
| * Nose   | Olfactory Epi                          | Metaplasia             | Respiratory, Minimal |
| * Preputial Gland  |  | Inflammation           | Suppurative, Minimal |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 179

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400628

ORGAN AND ACCOUNTABLE SITE STATUS

|                   |                        |              |                       |
|-------------------|------------------------|--------------|-----------------------|
| * Prostate        |                        | Inflammation | Suppurative, Moderate |
| * Seminal Vesicle |                        | Inflammation | Suppurative, Minimal  |
| * Spleen          | White Pulp             | Atrophy      | Minimal               |
|                   | Red Pulp               | Atrophy      | Moderate              |
|                   | [ Atrophy TGLs = 2-5 ] |              |                       |
| Testis            | Germinal Epith         | Degeneration | Moderate              |
| * Urinary Bladder |                        | Inflammation | Suppurative, Mild     |

PRIMARY CAUSE OF DEATH - Kidney Nephropathy

CONTRIBUTORY CAUSE OF DEATH - Urinary Bladder Inflammation

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

**ANIMAL ID:** 180

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400629

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | Testis                   | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

**MISSING**

- \* Mammary Gland

**PRESENT BUT NOT EXAMINED**

- \* Testes

**OBSERVATIONS**

- |                          |   |                        |                       |
|--------------------------|---|------------------------|-----------------------|
| * Adrenal Cortex         |   | Hypertrophy            | Minimal               |
| * Bone                   |   | Fibro-Osseous Lesion   | Mild                  |
| * Intestine Large, Cecum |   | Pigment                | Minimal               |
| * Islets, Pancreatic     |   | Hyperplasia            | Minimal               |
| * Kidney                 |   | Nephropathy            | Chronicprogr, Minimal |
|                          |   | Pigment                | Minimal               |
|                          | Renal Tubule  | Regeneration           | Minimal               |
| * Liver                  |   | Hepatocellular Adenoma | Multiple              |
|                          |   | Infiltration Cellular  | Mixed Cell, Minimal   |
|                          | [ Hepatocellular Adenoma TGLs = 1,2,3,4-11+12+13+14 ] |                        |                       |
| * Preputial Gland        |   | Cyst                   |                       |
| Tooth                    |   | Dental Dysplasia       | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 181

TRT#: 7

SEX: Male

DAY ON TEST: 532

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400630

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| Testis                    | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |   |  |
|----------------------|--------------|---|--|
| * Adrenal Cortex     |              | Hypertrophy   | Minimal                                      |
| * Bone Marrow        |              | Hypercellularity  | Minimal                                      |
| * Islets, Pancreatic |              | Hyperplasia   | Minimal                                      |
| * Kidney             |              | Nephropathy   | Chronicprogr, Minimal                        |
|                      |              | Pigment   | Minimal                                      |
|                      | Renal Tubule | Regeneration  | Moderate                                     |
| * Liver              |              | Eosinophilic Focus  |  |
|                      |              | Hepatocellular Carcinoma  |  |
|                      |              | Note: Slide 11, very early carcinoma, congestion suggests possible torsion (which would have contributed to death).   |  |
|                      |              | Note: Borderline eos focus in liver with general slight fatty change; unclear if this was the actual gross correlate. |  |
|                      |              |   | [ Eosinophilic Focus TGLs = 2-6 ]            |
|                      |              |   | [ Hepatocellular Carcinoma TGLs = 1-11 ]     |
| * Lung               |              | Alveolar/Bronchiolar Adenoma  |  |
|                      |              |   | [ Alveolar/Bronchiolar Adenoma TGLs = 3-12 ] |
| * Preputial Gland    |              | Cyst  |  |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 181

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 532

**DOSE:** 2000 mg/L

**DISP:** Natural Death

**HISTO:** 1400630

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen  
Tooth

Inflammation  
Extramedullary Hematopoiesis  
Dental Dysplasia

Chronic Active, Minimal  
Minimal  
Minimal

---

**PRIMARY CAUSE OF DEATH** - Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 182

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400631

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Gallbladder               | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Pituitary Gland         |
| * Preputial Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | Testis                    |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

**MISSING**

|                 |                     |
|-----------------|---------------------|
| * Mammary Gland | * Parathyroid Gland |
|-----------------|---------------------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |  |                                |                       |
|--------------------------|--|--------------------------------|-----------------------|
| * Adrenal Cortex         |  | Hypertrophy                    | Minimal               |
| * Harderian Gland        |  | Adenoma                        |                       |
|                          | [ Adenoma TGLs = 3-13 ]  |                                |                       |
| * Intestine Large, Cecum |  | Pigment                        | Minimal               |
| * Islets, Pancreatic     |  | Hyperplasia                    | Minimal               |
| * Kidney                 |  | Nephropathy                    | Chronicprogr, Minimal |
|                          |  | Pigment                        | Minimal               |
|                          | Renal Tubule   | Regeneration                   | Minimal               |
| * Liver                  |  | Hepatocellular Carcinoma       |                       |
|                          | [ Hepatocellular Carcinoma TGLs = 2-12 ]   |                                |                       |
| * Lung                   |  | Alveolar/Bronchiolar Carcinoma | Multiple              |
|                          | Note: Multiple small foci interpreted to be internal seeding of larger mass on slide 11.   |                                |                       |
|                          | Note: Activated (large, eosinophilic) alveolar macrophage infiltrate present (not diagnosed separately) typical of reaction to AB Carcinoma. |                                |                       |
|                          | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-11 ]   |                                |                       |
| * Spleen                 | White Pulp   | Hyperplasia                    | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 183

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400632

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                              |                    |
|--------------------------|--|------------------------------|--------------------|
| * Adrenal Cortex         |  | Hypertrophy                  | Minimal            |
| * Intestine Large, Cecum |  | Pigment                      | Minimal            |
| * Islets, Pancreatic     |  | Hyperplasia                  | Minimal            |
| * Kidney                 | Renal Tubule                                     | Atypia Cellular              | Mild               |
|                          |  | Nephropathy                  | Chronicprogr, Mild |
|                          |  | Pigment                      | Minimal            |
| * Liver                  |  | Clear Cell Focus             |                    |
|                          |  | Hepatocellular Adenoma       | Multiple           |
|                          | [ Hepatocellular Adenoma TGLs = 1,2,3-11+12+13 ] |                              |                    |
| * Lymph Node, Mesenteric |  | Extramedullary Hematopoiesis | Minimal            |
| Testis                   | Germinal Epith                                   | Degeneration                 | Minimal            |
| * Thyroid Gland          | Follicle   | Degeneration                 | Minimal            |
| Tooth                    |  | Dental Dysplasia             | Minimal            |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 184

TRT#: 7

SEX: Male

DAY ON TEST: 631

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400633

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

**MISSING**

|                          |                 |          |
|--------------------------|-----------------|----------|
| * Lymph Node, Mandibular | * Mammary Gland | * Thymus |
|--------------------------|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|   |                |                        |                      |
|---|----------------|------------------------|----------------------|
| * Adren Cortex  |                |                        |                      |
| Note: Only one adrenal presented.   |                |                        |                      |
| * Bone  |                | Fibro-Osseous Lesion   | Minimal              |
| * Bone Marrow   |                |                        |                      |
| Note: Substantial increase in marrow fat noted.   |                |                        |                      |
| * Epididymis  |                |                        |                      |
| Note: Diffuse aspermia; many degenerative cells from testes noted.  |                |                        |                      |
| * Kidney  | Renal Tubule   | Cyst                   |                      |
|   |                | Nephropathy            | Chronicprogr, Marked |
|   |                | Pigment                | Minimal              |
| * Liver   |                | Hepatocellular Adenoma |                      |
| Note: Multinodular hypertrophic/hyperplastic hepatocytes in single focus with necrosis, fibrosis, and granulomatous inflammation. |                |                        |                      |
| [ Hepatocellular Adenoma TGLs = 1-11 ]  |                |                        |                      |
| * Spleen  | Red Pulp       | Atrophy                | Mild                 |
| Testis  | Germinal Epith | Degeneration           | Mild                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 184

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 631

**DOSE:** 2000 mg/L

**DISP:** Moribund Sacrifice

**HISTO:** 1400633

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH

- Kidney Nephropathy

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 185

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400634

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Epididymis              | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |   |                                      |                                     |
|----------------------|---|--------------------------------------|-------------------------------------|
| * Adrenal Cortex     |   | Hypertrophy                          | Minimal                             |
| * Bone Marrow        |   | Hypercellularity                     | Minimal                             |
| * Islets, Pancreatic |   | Hyperplasia                          | Minimal                             |
| * Kidney             | Renal Tubule<br>Artery                      | Carcinoma<br>Inflammation<br>Pigment | Chronic Active, Moderate<br>Minimal |
|                      | Renal Tubule                                | Regeneration                         | Moderate                            |
|                      | [ Carcinoma TGLs = 1-11 ]                   |                                      |                                     |
| * Liver              | Hepatocyte                                  | Hepatocellular Adenoma<br>Necrosis   | Multiple<br>Minimal                 |
|                      | [ Hepatocellular Adenoma TGLs = 2,3-12+13 ] |                                      |                                     |
| * Preputial Gland    |   | Cyst<br>Inflammation                 | Suppurative, Marked                 |
| Testis               | Germinal Epith                              | Degeneration                         | Minimal                             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 186

TRT#: 7

SEX: Male

DAY ON TEST: 363

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400635

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Preputial Gland          | * Prostate                | * Salivary Glands           |
| * Seminal Vesicle        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | Testis                     | * Trachea                 | * Urinary Bladder           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |                  |                    |
|----------------------|--------------|------------------|--------------------|
| * Islets, Pancreatic |              | Hyperplasia      | Marked             |
| * Kidney             |              | Mineral          | Minimal            |
|                      | Renal Tubule | Necrosis         | Minimal            |
|                      |              | Nephropathy      | Chronicprogr, Mild |
|                      |              | Pigment          | Minimal            |
| * Liver              |              | Basophilic Focus |                    |
|                      |              | Fatty Change     | Diffuse, Mild      |
| * Thymus             |              | Atrophy          | Mild               |
| * Thyroid Gland      | Follicle     | Degeneration     | Minimal            |
| Tooth                |              | Dental Dysplasia | Mild               |

PRIMARY CAUSE OF DEATH

- Kidney Renal Tubule Necrosis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 187

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400636

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |              |                          |                       |
|--|--------------|--------------------------|-----------------------|
| * Adrenal Cortex   |              | Hypertrophy              | Minimal               |
| * Bone Marrow  |              | Hypercellularity         | Mild                  |
| * Epididymis   |              |                          |                       |
| Note: Epididymides filled with degenerate cells from testes. |              |                          |                       |
| * Intestine Large, Cecum                                     |              | Pigment                  | Minimal               |
| * Kidney   | Renal Tubule | Cyst                     |                       |
|  |              | Nephropathy              | Chronicprogr, Minimal |
|  |              | Pigment                  | Minimal               |
|  | Renal Tubule | Regeneration             | Moderate              |
| * Liver  |              | Hepatocellular Adenoma   | Multiple              |
|  |              | Hepatocellular Carcinoma |                       |
|  |              | Mixed Cell Focus         |                       |

Note: Carcinoma developing within very large adenoma (slide 12); part of tumor is on slide 4.

[ Hepatocellular Adenoma TGLs = 2-12 ]

[ Hepatocellular Carcinoma TGLs = 1-11 ]

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 187

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400636

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ORGAN AND ACCOUNTABLE SITE STATUS

---

|   |                |              |                   |
|---|----------------|--------------|-------------------|
| * Lymph Node, Mesenteric                        |                | Inflammation | Acute, Minimal    |
| Note: Inflammation in association with thrombi. |                |              |                   |
| Testis  | Germinal Epith | Degeneration | Moderate          |
| * Thyroid Gland                                 | Follicle       | Degeneration | Minimal           |
| Tooth   |                | Inflammation | Suppurative, Mild |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 188

TRT#: 7

SEX: Male

DAY ON TEST: 544

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400637

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                      |              |                        |                       |
|----------------------|--------------|------------------------|-----------------------|
| * Bone Marrow        |              | Hypercellularity       | Minimal               |
| * Islets, Pancreatic |              | Hyperplasia            | Minimal               |
| * Kidney             |              | Nephropathy            | Chronicprogr, Minimal |
|                      |              | Pigment                | Minimal               |
| * Liver              | Renal Tubule | Regeneration           | Minimal               |
|                      | Hepatocyte   | Fatty Change           | Focal, Minimal        |
|                      |              | Hepatocellular Adenoma |                       |
|                      |              | Mixed Cell Focus       |                       |

Note: Large mass (slide 11) is morphologically consistent with adenoma, however marked congestion of sinusoids with less than crisp erythrocytes suggests torsion.

[ Hepatocellular Adenoma TGLs = 1-11 ]

|        |                |                  |         |
|--------|----------------|------------------|---------|
| Testis | Germinal Epith | Degeneration     | Minimal |
| Tooth  |                | Dental Dysplasia | Mild    |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 189

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400638

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Gallbladder               |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Preputial Gland          | * Prostate                | * Salivary Glands           |
| * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |                             |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|   |              |                                   |                       |
|---|--------------|-----------------------------------|-----------------------|
| * Adrenal Cortex  |              | Accessory Adrenal Cortical Nodule |                       |
| * Bone Marrow   |              | Hypercellularity                  | Minimal               |
| * Epididymis  |              |                                   |                       |
| Note: Epididymides contain numerous degenerate cells from testes. |              |                                   |                       |
| * Harderian Gland   |              | Hyperplasia                       | Moderate              |
| * Heart   |              | Cardiomyopathy                    | Minimal               |
| * Islets, Pancreatic  |              | Hyperplasia                       | Minimal               |
| * Kidney  |              | Nephropathy                       | Chronicprogr, Minimal |
|   |              | Pigment                           | Minimal               |
|   | Renal Tubule | Regeneration                      | Moderate              |
| * Liver   |              | Eosinophilic Focus                |                       |
|   |              | Hemorrhage                        | Marked                |
|   |              | Hepatocellular Adenoma            |                       |
|   |              | Hepatocellular Carcinoma          |                       |

Note: Massive blood-filled cystic area is TGL-2.

[ Hemorrhage TGLs = 2-12 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 189

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400638

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ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Hepatocellular Adenoma TGLs = 1-11 ]

[ Hepatocellular Carcinoma TGLs = 3-13 ]

\* Spleen

Extramedullary Hematopoiesis

Mild

Testis

Germinal Epith

Degeneration

Mild

\* Thymus

Atrophy

Moderate

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 190

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400639

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |  |                        |                       |
|--------------------------|--|------------------------|-----------------------|
| * Adrenal Cortex         | Subcapsular                                      | Hyperplasia            | Moderate              |
|                          |  | Hypertrophy            | Minimal               |
| * Intestine Large, Cecum |  | Pigment                | Minimal               |
| * Kidney                 | Renal Tubule                                     | Carcinoma              |                       |
|                          | Renal Tubule                                     | Cyst                   |                       |
|                          |  | Infarct                | Minimal               |
|                          |  | Nephropathy            | Chronicprogr, Minimal |
|                          | Renal Tubule                                     | Regeneration           | Minimal               |
|                          | [ Carcinoma TGLs = 4-15 ]                        |                        |                       |
| * Liver                  |  | Clear Cell Focus       |                       |
|                          |  | Eosinophilic Focus     |                       |
|                          | [ Hepatocellular Adenoma TGLs = 1,2,3-12+13+14 ] | Hepatocellular Adenoma | Multiple              |
| * Nose                   | Olfactory Epi                                    | Metaplasia             | Respiratory, Minimal  |
| Testis                   | Germinal Epith                                   | Degeneration           | Minimal               |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 190

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400639

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dental Dysplasia

Mild

---

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 191

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400640

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Liver                     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| Testis                    | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

**MISSING**

|                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

**PRESENT BUT NOT EXAMINED**

\* Testes

**OBSERVATIONS**

|                          |                                |                    |
|--------------------------|--------------------------------|--------------------|
| * Adrenal Cortex         | Hypertrophy                    | Minimal            |
| * Intestine Large, Cecum | Pigment                        | Minimal            |
| * Kidney                 | Nephropathy                    | Chronicprogr, Mild |
| * Lung                   | Alveolar/Bronchiolar Carcinoma | Multiple           |

Note: Although cells of mass appear well differentiated, the internal seeding and size of this mass suggest this has exceeded hyperplasia or adenoma criteria.

[ Alveolar/Bronchiolar Carcinoma TGLs = 1-12 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 192

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400641

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thymus                    | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                                    |                              |                       |
|--------------------------|------------------------------------|------------------------------|-----------------------|
| * Adrenal Cortex         | Subcapsular                        | Hyperplasia                  | Marked                |
| * Islets, Pancreatic     |                                    | Hyperplasia                  | Mild                  |
| * Kidney                 |                                    | Nephropathy                  | Chronicprogr, Minimal |
|                          | Renal Tubule                       | Regeneration                 | Minimal               |
| * Liver                  |                                    | Basophilic Focus             |                       |
|                          |                                    | Clear Cell Focus             |                       |
|                          |                                    | Eosinophilic Focus           |                       |
|                          | [ Basophilic Focus TGLs = 2-13 ]   |                              |                       |
|                          | [ Eosinophilic Focus TGLs = 1-12 ] |                              |                       |
| * Lung                   |                                    | Alveolar/Bronchiolar Adenoma |                       |
| * Lymph Node, Mesenteric |                                    | Angiectasis                  | Mild                  |
| * Preputial Gland        |                                    | Cyst                         |                       |
| * Thyroid Gland          | Follicle                           | Degeneration                 | Minimal               |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 193

TRT#: 7

SEX: Male

DAY ON TEST: 521

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400642

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Stomach, Forestomach     | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

|               |                 |
|---------------|-----------------|
| * Gallbladder | * Mammary Gland |
|---------------|-----------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |                |                              |                      |
|--|----------------|------------------------------|----------------------|
| * Epididymis   |                |                              |                      |
| Note: Aspermia, bilateral, reflective of testicular atrophy.   |                |                              |                      |
| * Islets, Pancreatic   |                | Hyperplasia                  | Minimal              |
| * Kidney   | Renal Tubule   | Necrosis                     | Mild                 |
|  |                | Nephropathy                  | Chronicprogr, Marked |
|  |                | Pigment                      | Minimal              |
| * Liver  | Hepatocyte     | Hepatocellular Adenoma       |                      |
|  |                | Necrosis                     | Mild                 |
| Note: Apparent strangulation of pedunculated adenoma on slide 11.<br>[ Hepatocellular Adenoma TGLs = 1-11 ]  |                |                              |                      |
| * Lung   |                | Alveolar/Bronchiolar Adenoma |                      |
| * Spleen   | Red Pulp       | Atrophy                      | Marked               |
|  | White Pulp     | Atrophy                      | Marked               |
| Note: Terminal splenic contraction appears likely, with resulting increased leukocytes noted in heart chambers, some blood vessels, and various sinusoidal structures. |                |                              |                      |
| * Stomach, Glandular   |                | Erosion                      | Minimal              |
| Testis   | Germinal Epith | Degeneration                 | Moderate             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 193

TRT#: 7

SEX: Male

DAY ON TEST: 521

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400642

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

\* Thymus

Atrophy

Marked

Tooth

Dental Dysplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Kidney Nephropathy

CONTRIBUTORY CAUSE OF DEATH

- Liver Hepatocellular Adenoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 194

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400643

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Liver                     | * Lymph Node, Mandibular | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| Testis                      | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |                      |                              |                      |
|--------------------------|----------------------|------------------------------|----------------------|
| * Adrenal Cortex         | Subcapsular          | Adenoma                      |                      |
| * Bone Marrow            |                      | Hypercellularity             | Minimal              |
| * Intestine Large, Cecum |                      | Pigment                      | Minimal              |
| * Kidney                 |                      | Cyst                         |                      |
|                          |                      | Nephropathy                  | Chronicprogr, Mild   |
|                          |                      | Pigment                      | Minimal              |
|                          | Renal Tubule         | Regeneration                 | Minimal              |
|                          | [ Cyst TGLs = 1-12 ] |                              |                      |
| * Lung                   | Alveolar Epith       | Hyperplasia                  | Minimal              |
| * Lymph Node, Mesenteric |                      | Extramedullary Hematopoiesis | Minimal              |
| * Nose                   | Olfactory Epi        | Metaplasia                   | Respiratory, Minimal |
| * Preputial Gland        |                      | Cyst                         |                      |
|                          |                      | Inflammation                 | Chronic Active, Mild |
| Tooth                    |                      | Dental Dysplasia             | Minimal              |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 195

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400644

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | Testis                   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|                          |   |                              |                       |
|--------------------------|---|------------------------------|-----------------------|
| * Bone Marrow            |   | Hypercellularity             | Minimal               |
| * Intestine Large, Cecum |   | Pigment                      | Minimal               |
| * Kidney                 |   | Nephropathy                  | Chronicprogr, Minimal |
|                          |   | Pigment                      | Minimal               |
|                          | Renal Tubule                                    | Regeneration                 | Minimal               |
| * Liver                  |   | Clear Cell Focus             |                       |
|                          | Hepatocyte                                      | Fatty Change                 | Focal, Minimal        |
|                          |   | Hepatocellular Adenoma       | Multiple              |
|                          |   | Hepatocellular Carcinoma     |                       |
|                          |   | Mixed Cell Focus             |                       |
|                          | Hepatocyte                                      | Necrosis                     | Minimal               |
|                          | [ Hepatocellular Adenoma TGLs = 1,2,3-5+11+12 ] |                              |                       |
| * Lung                   |   | Alveolar/Bronchiolar Adenoma | Multiple              |
| * Lymph Node, Mesenteric |   | Extramedullary Hematopoiesis | Minimal               |
| Tooth                    |   | Dental Dysplasia             | Mild                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

---

**ANIMAL ID:** 195

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400644

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Inflammation

Suppurative, Moderate

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Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 196

TRT#: 7

SEX: Male

DAY ON TEST: 701

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400645

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| Blood Vessel              | * Bone                      | * Brain                  | * Esophagus                |
| * Eye                     | * Gallbladder               | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

- |                          |                 |          |
|--------------------------|-----------------|----------|
| * Lymph Node, Mesenteric | * Mammary Gland | * Thymus |
|--------------------------|-----------------|----------|

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |              |                                   |
|---|--------------|-----------------------------------|
| * Adrenal Cortex  |              | Accessory Adrenal Cortical Nodule |
| * Adrenal Medulla   |              | Pheochromocytoma Malignant        |
| Note: TGL-1 is adrenal tumor, not mesentery fat nodule as postulated on IANR.<br>[ Pheochromocytoma Malignant TGLs = 1-11 ] |              |                                   |
| * Bone Marrow   |              | Hypercellularity                  |
| * Epididymis  |              | Inflammation                      |
| Note: Decreased sperm in ducts related to atrophic testes.  |              |                                   |
| * Harderian Gland   |              | Adenoma                           |
| [ Adenoma TGLs = 3-12 ]   |              |                                   |
| * Intestine Large, Cecum  |              | Pigment                           |
| * Islets, Pancreatic  |              | Hyperplasia                       |
| * Kidney  |              | Nephropathy                       |
|   |              | Pigment                           |
|   | Renal Tubule | Regeneration                      |
| [ Regeneration TGLs = 2-5 ]   |              |                                   |
| * Liver   |              | Hemangioma                        |
| * Lung  |              | Alveolar/Bronchiolar Adenoma      |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 196

TRT#: 7

SEX: Male

DAY ON TEST: 701

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400645

ORGAN AND ACCOUNTABLE SITE STATUS

|                   |                |                            |                              |
|-------------------|----------------|----------------------------|------------------------------|
| * Preputial Gland |                | Pheochromocytoma Malignant | Metastatic (Adrenal Medulla) |
| * Spleen          |                | Inflammation               | Chronic Active, Moderate     |
| Testis            | Germinal Epith | Pigment                    | Mild                         |
| Tooth             |                | Degeneration               | Moderate                     |
|                   |                | Dental Dysplasia           | Minimal                      |

PRIMARY CAUSE OF DEATH - Adrenal Medulla Pheochromocytoma Malignant

CONTRIBUTORY CAUSE OF DEATH - Kidney Renal Tubule Regeneration

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 197

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400646

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

\* Mammary Gland

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

\* Epididymis

Note: Both epididymides empty/or contain many degenerate cells from the testes.

Note: Both epididymides are small (corresponding to TGL-2 for left side); testes atrophied, indicating inanition and/or hormone exhaustion.

\* Eye

Note: Lymphocyte infiltrate in sclera present; eye section is not optimal, no cornea present.

\* Intestine Large, Cecum

Pigment

Minimal

\* Kidney

Mineral

Minimal

Nephropathy

Chronicprogr, Moderate

Regeneration

Moderate

Renal Tubule

[ Nephropathy TGLs = 4-14 ]

\* Liver

Eosinophilic Focus

Hepatocellular Adenoma

Hepatocellular Carcinoma

Note: Multiple eos foci on slides 4 and 6.

[ Hepatocellular Adenoma TGLs = 3-13 ]

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 197

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400646

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ORGAN AND ACCOUNTABLE SITE STATUS

---

|        |                            |               |                              |          |
|--------|----------------------------|---------------|------------------------------|----------|
|        | [ Hepatocellular Carcinoma | TGLs = 1-11 ] |                              |          |
| * Lung |                            |               | Alveolar/Bronchiolar Adenoma |          |
|        | Alveolar Epith             |               | Hyperplasia                  | Moderate |
| Testis | Germinal Epith             |               | Degeneration                 | Moderate |
| Tooth  |                            |               | Dental Dysplasia             | Minimal  |

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 198

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400647

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Epididymis                | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | Testis                    | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

PRESENT BUT NOT EXAMINED

- \* Testes

OBSERVATIONS

- |   |               |                  |                       |
|---|---------------|------------------|-----------------------|
| * Intestine Large, Cecum  |               | Pigment          | Minimal               |
| * Kidney  |               | Nephropathy      | Chronicprogr, Minimal |
|   |               | Pigment          | Minimal               |
|   | Renal Tubule  | Regeneration     | Minimal               |
| * Liver   |               | Basophilic Focus |                       |
|   |               | Mixed Cell Focus |                       |
| <p>Note: There is a minute "mixed" focus on slide 12, presumably which correlates with TGL-1; however, there is a much larger baso focus on slide 5 (also left lobe).<br/>         [ Mixed Cell Focus TGLs = 1-12 ]</p> |               |                  |                       |
| * Pituitary Gland   | Pars Distalis | Adenoma          |                       |
| Tooth   |               | Dental Dysplasia | Mild                  |



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 199

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400648

ORGAN AND ACCOUNTABLE SITE STATUS

Note: While mes lymph node is enlarged compared to typical aged mouse, it is only mildly so. Some histio cell infiltrate in sinuses noted; EMH more remarkable.

|   |                      |                                  |                                   |
|---|----------------------|----------------------------------|-----------------------------------|
| [ Extramedullary Hematopoiesis<br>Mesentery<br>[ Necrosis TGLs = 4-14 ]           | TGLs = 5-15 ]<br>Fat | Necrosis                         | Marked                            |
| * Nose  | Respirat Epith       | Hyperplasia<br>Inflammation      | Minimal<br>Suppurative, Mild      |
| Note: Fungus and inflammation extend to skeletal muscle around head/nose section. |                      |                                  |                                   |
| * Preputial Gland   |                      | Cyst                             |                                   |
| * Spleen  | White Pulp           | Hyperplasia                      | Moderate                          |
| [ Hyperplasia TGLs = 2-12 ]   |                      |                                  |                                   |
| Tooth   |                      | Dental Dysplasia<br>Inflammation | Moderate<br>Suppurative, Moderate |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 200

TRT#: 7

SEX: Male

DAY ON TEST: 712

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400649

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Bone Marrow               |
| * Epididymis             | * Esophagus                | * Eye                     | * Gallbladder               |
| * Harderian Gland        | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

|                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mandibular | * Mammary Gland |
|--------------------------|-----------------|

PRESENT BUT NOT EXAMINED

\* Testes

OBSERVATIONS

|  |              |                       |                      |
|--|--------------|-----------------------|----------------------|
| * Adrenal Cortex   |              | Hypertrophy           | Minimal              |
| * Brain  |              | Infiltration Cellular | Lymphocyte, Minimal  |
| Note: Focal perivascular lymphocytic infiltrate noted.   |              |                       |                      |
| * Epididymis   |              |                       |                      |
| Note: Numerous degenerate cells present (indicating degeneration in testes, not epididymides). |              |                       |                      |
| * Heart  |              | Mineral               | Minimal              |
| Note: Trace infiltrate of lymphocytes around coronary artery.                                  |              |                       |                      |
| * Intestine Large, Cecum   |              | Pigment               | Minimal              |
| * Kidney   | Artery       | Infiltration Cellular | Lymphocyte, Moderate |
|  | Renal Tubule | Necrosis              | Minimal              |
|  | Renal Tubule | Pigment               | Minimal              |
|  |              | Regeneration          | Marked               |
| [ Regeneration TGLs = 3-5 ]  |              |                       |                      |
| * Liver  | Hepatocyte   | Atypia Cellular       | Mild                 |
|  |              | Multinucleated        | Minimal              |
| [ Atypia Cellular TGLs = 2-4+5+6 ]   |              |                       |                      |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 200

TRT#: 7

SEX: Male

DAY ON TEST: 712

DOSE: 2000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400649

ORGAN AND ACCOUNTABLE SITE STATUS

|                   |                        |                  |                        |
|-------------------|------------------------|------------------|------------------------|
| * Preputial Gland |                        | Cyst             |                        |
|                   |                        | Inflammation     | Chronic Active, Marked |
| * Spleen          | White Pulp             | Atrophy          | Marked                 |
|                   | Red Pulp               | Atrophy          | Moderate               |
|                   |                        | Pigment          | Mild                   |
| Testis            | Germinal Epith         | Degeneration     | Mild                   |
| * Thymus          |                        | Atrophy          | Marked                 |
|                   | [ Atrophy TGLs = 1-7 ] |                  |                        |
| Tooth             |                        | Dental Dysplasia | Mild                   |

PRIMARY CAUSE OF DEATH - Kidney Renal Tubule Regeneration



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

---

ANIMAL ID: 201

TRT#: 2

SEX: Female

DAY ON TEST: 702

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400650

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Note: Cystic endometrial hyperplasia includes dilatation of uterine horn(s) is also on slide 12.

Note: "Cervix" and vagina were added to the list for histo exam per amendment. Cervix is not a "tissue" in TDMSE and therefore cannot be specifically coded.

Note: Presence of cervix is hereafter documented as "present, normal" along with uterus, when uterus is coded present (normal or abnormal).

Note: Cervix, when absent, will be coded by exclusion using a note under the organ/tissue "Uterus."

[ Hyperplasia TGLs = 4-16 ]

Vagina

Note: Vagina was added as a protocol-required tissue by amendment, although it is not "hashed" in TDMSE.

---

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

---



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 202

TRT#: 2

SEX: Female

DAY ON TEST: 676

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400651

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Liver                     |
| * Lung                   | * Ovary                    | * Pancreas                | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | * Uterus                    |
| Vagina                   |                            |                           |                             |

**MISSING**

\* Lymph Node, Mesenteric      \* Parathyroid Gland

**OBSERVATIONS**

\* Bone Marrow

Note: Marrow is autolyzed and potentially has mild atrophy not diagnosed.

\* Kidney

Glomerulopathy  
 Mineral  
 Nephropathy

Marked  
 Minimal  
 Chronicprogr, Minimal

Note: All glomeruli affected; eosinophilic amorphous material does not polarize, indicating it is not fibrosis.

\* Lung

Note: Marked leukocytosis noted.

\* Lymph Node, Mandibular

Atrophy

Moderate

\* Mammary Gland

Hyperplasia

Mild

\* Nose

Olfactory Epi

Metaplasia

Minimal

\* Spleen

Red Pulp

Atrophy

Marked

White Pulp

Atrophy

Marked

Pigment

Marked

\* Thymus

Atrophy

Marked

PRIMARY CAUSE OF DEATH

- Kidney Glomerulopathy

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 203

TRT#: 2

SEX: Female

DAY ON TEST: 560

DOSE: 0 mg/L

DISP: Moribund Sacrifice

HISTO: 1400652

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular |
| * Mammary Gland            | * Nose                    | * Parathyroid Gland         | * Pituitary Gland        |
| * Salivary Glands          | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

OBSERVATIONS

|   |             |                      |                   |
|---|-------------|----------------------|-------------------|
| * Bone Marrow   |             | Hypercellularity     | Marked            |
| * Liver   |             | Fibrous Histiocytoma | Metastatic (Skin) |
|   | Hepatocyte  | Necrosis             | Minimal           |
| * Lung  |             | Fibrous Histiocytoma | Metastatic (Skin) |
| * Lymph Node, Mesenteric  |             | Fibrous Histiocytoma | Metastatic (Skin) |
| Mesentery   |             | Fibrous Histiocytoma | Metastatic (Skin) |
| * Ovary   |             | Fibrous Histiocytoma | Metastatic (Skin) |
| Note: Second ovary not presented on slide.  |             |                      |                   |
| * Pancreas  |             | Fibrous Histiocytoma | Metastatic (Skin) |
| * Skin  |             | Fibrous Histiocytoma |                   |
| Note: Large mass is subcutaneous malignant fibrous tumor with minimal histiocytic-like component. Fibrous areas polarize indicating mature connective tissue. |             |                      |                   |
| Note: MFH term is used because metastatic sites have histiocytic appearance, and it is presumed this is not a collision tumor or two separate malignancies.   |             |                      |                   |
| [ Fibrous Histiocytoma TGLs = 1-13 ]  |             |                      |                   |
| * Spleen  |             | Fibrous Histiocytoma | Metastatic (Skin) |
| * Thymus  |             | Fibrous Histiocytoma | Metastatic (Skin) |
| * Uterus  | Endometrium | Hyperplasia          | Cystic, Minimal   |

PRIMARY CAUSE OF DEATH - Skin Fibrous Histiocytoma

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 204

TRT#: 2

SEX: Female

DAY ON TEST: 551

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400653

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | Oral Mucosa                | * Ovary                   | * Pancreas                  |
| * Parathyroid Gland      | * Pituitary Gland          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | * Uterus                   | Vagina                    |                             |

OBSERVATIONS

|   |                              |                      |
|---|------------------------------|----------------------|
| * Liver   | Infiltration Cellular        | Mixed Cell, Minimal  |
| Lymph Node  | Hyperplasia                  | Lymphocyte, Moderate |
| Note: Pancreatic node.  |                              |                      |
| * Salivary Glands   | Pigment                      | Mild                 |
| Note: Focal collection of pigment-engorged macrophages noted. |                              |                      |
| * Spleen  | Accessory Spleen             | Minimal              |
|   | Extramedullary Hematopoiesis | Mild                 |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 205

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400654

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Brain                     |
| * Clitoral Gland         | * Esophagus                | * Gallbladder             | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

OBSERVATIONS

|   |                |                       |                     |
|---|----------------|-----------------------|---------------------|
| * Bone  |                | Fibro-Osseous Lesion  | Minimal             |
| * Bone Marrow   |                | Hypercellularity      | Minimal             |
| * Eye   | Lens           | Cataract              | Moderate            |
| * Harderian Gland   |                | Adenoma               |                     |
| [ Adenoma TGLs = 2-14 ]   |                |                       |                     |
| * Kidney  | Renal Tubule   | Cyst                  |                     |
| * Liver   |                | Infiltration Cellular | Mixed Cell, Minimal |
| Lymph Node  |                | Hemorrhage            | Marked              |
|   |                | Polyarteritis Nodosa  | Mild                |
| Note: Arteritis of mediastinal node (slide 4).                    |                |                       |                     |
| Note: TGL-1-13=hemorrhage within lumbar node.                     |                |                       |                     |
| [ Hemorrhage TGLs = 1-13 ]  |                |                       |                     |
| * Ovary   | Interstit Cell | Hyperplasia           | Mild                |
| * Pituitary Gland   | Pars Distalis  | Hyperplasia           | Minimal             |
| * Spleen  | White Pulp     | Hyperplasia           | Minimal             |
| * Thyroid Gland   | Follicle       | Degeneration          | Minimal             |
| * Trachea   |                | Polyarteritis Nodosa  | Moderate            |
| Note: Arteritis (slide 4A) of artery between trachea and thyroid. |                |                       |                     |
| * Uterus  |                | Infiltration Cellular | Neutrophil, Minimal |
|   |                | Polyarteritis Nodosa  | Moderate            |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 206

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400655

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Liver                     | * Lung                   | * Lymph Node, Mandibular   |
| * Mammary Gland           | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |
| Vagina                    |                             |                          |                            |

OBSERVATIONS

|                                |               |                       |                       |
|--------------------------------|---------------|-----------------------|-----------------------|
| * Bone                         |               | Fibro-Osseous Lesion  | Minimal               |
| * Bone Marrow                  |               | Hypercellularity      | Minimal               |
| * Kidney                       |               | Nephropathy           | Chronicprogr, Minimal |
| * Lymph Node, Mesenteric       |               | Infiltration Cellular | Histiocyte, Mild      |
| * Ovary                        |               | Cyst                  |                       |
| Note: Blood-filled cyst noted. |               |                       |                       |
| * Pituitary Gland              | Pars Distalis | Hyperplasia           | Minimal               |
| * Spleen                       | White Pulp    | Hyperplasia           | Minimal               |
| * Uterus                       | Endometrium   | Hyperplasia           | Cystic, Minimal       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 207

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400656

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

OBSERVATIONS

|                   |                                       |                        |                       |
|-------------------|---------------------------------------|------------------------|-----------------------|
| * Kidney          |                                       | Nephropathy            | Chronicprogr, Minimal |
| * Liver           |                                       | Hepatocellular Adenoma |                       |
|                   |                                       | Infiltration Cellular  | Mixed Cell, Minimal   |
|                   | [ Hepatocellular Adenoma TGLs = 2-5 ] |                        |                       |
| * Pituitary Gland | Pars Distalis                         | Hyperplasia            | Minimal               |
| * Uterus          | Endometrium                           | Hyperplasia            | Cystic, Marked        |
|                   | [ Hyperplasia TGLs = 1-11+12 ]        |                        |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 208

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400657

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|                   |               |                |                       |
|-------------------|---------------|----------------|-----------------------|
| * Bone            |               | Increased Bone | Minimal               |
| * Kidney          |               | Nephropathy    | Chronicprogr, Minimal |
| * Liver           |               | Inflammation   | Focal, Minimal        |
| * Nose            | Olfactory Epi | Metaplasia     | Minimal               |
| * Pituitary Gland | Pars Distalis | Hyperplasia    | Minimal               |
| * Thyroid Gland   | Follicle      | Degeneration   | Mild                  |
| * Uterus          | Endometrium   | Hyperplasia    | Cystic, Minimal       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 209

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400658

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         | Vagina                      |

OBSERVATIONS

|                   |               |                  |                       |
|-------------------|---------------|------------------|-----------------------|
| * Kidney          |               | Nephropathy      | Chronicprogr, Minimal |
| * Liver           |               | Inflammation     | Focal, Minimal        |
| * Pituitary Gland | Pars Distalis | Hyperplasia      | Minimal               |
| * Thyroid Gland   | Follicle      | Degeneration     | Minimal               |
| Tooth             |               | Dental Dysplasia |                       |
| * Uterus          | Endometrium   | Hyperplasia      | Cystic, Mild          |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 210

TRT#: 2

SEX: Female

DAY ON TEST: 669

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400659

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Clitoral Gland         |
| * Esophagus                | * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Urinary Bladder           | Vagina                   |

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

|   |              |                               |                       |
|---|--------------|-------------------------------|-----------------------|
| * Adrenal Cortex  |              | Extramedullary Hematopoiesis  | Mild                  |
| * Bone Marrow   |              | Histiocytic Sarcoma           |                       |
| * Brain   |              | Histiocytic Sarcoma           |                       |
| Note: Histo sarc plus necrosis and inflammation noted.  |              |                               |                       |
| * Clitoral GI   |              |                               |                       |
| Note: One gland present on slide.   |              |                               |                       |
| * Eye   |              | Histiocytic Sarcoma           |                       |
| Note: Histo sarc surrounds optic nerve.   |              |                               |                       |
| * Heart   |              | Cardiomyopathy                | Mild                  |
|   |              | Histiocytic Sarcoma           |                       |
|   |              | Mineral                       | Minimal               |
| * Kidney  | Renal Tubule | Accumulation, Hyaline Droplet | Mild                  |
|   |              | Histiocytic Sarcoma           |                       |
|   |              | Nephropathy                   | Chronicprogr, Minimal |
| * Liver   |              | Histiocytic Sarcoma           |                       |
| Note: Large areas of histo sarc related necrosis present, not diagnosed separately.                                 |              |                               |                       |
| [ Histiocytic Sarcoma TGLs = 1-4+5+6 ]  |              |                               |                       |
| * Lung  |              | Histiocytic Sarcoma           |                       |
| Lymph Node  |              | Histiocytic Sarcoma           |                       |
| Note: TGL 3,4,5 and 10 (lumbar, renal, mediastinal and pancreatic nodes) are massively infiltrated with histo sarc. |              |                               |                       |
| [ Histiocytic Sarcoma TGLs = 3,4,5,10-14+15+16+19 ]   |              |                               |                       |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 210

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 669

**DOSE:** 0 mg/L

**DISP:** Natural Death

**HISTO:** 1400659

**ORGAN AND ACCOUNTABLE SITE STATUS**

|                          |                                     |                              |                |
|--------------------------|-------------------------------------|------------------------------|----------------|
| * Lymph Node, Mandibular |                                     | Extramedullary Hematopoiesis | Mild           |
|                          |                                     | Hemorrhage                   | Marked         |
|                          |                                     | Histiocytic Sarcoma          |                |
| * Lymph Node, Mesenteric |                                     | Histiocytic Sarcoma          |                |
|                          | [ Histiocytic Sarcoma TGLs = 6-17 ] |                              |                |
| * Ovary                  |                                     | Histiocytic Sarcoma          |                |
|                          | [ Histiocytic Sarcoma TGLs = 8-10 ] |                              |                |
| * Spleen                 |                                     | Histiocytic Sarcoma          |                |
| * Thymus                 |                                     | Atrophy                      | Marked         |
|                          |                                     | Histiocytic Sarcoma          |                |
| * Thyroid Gland          | Follicle                            | Degeneration                 | Minimal        |
| * Trachea                |                                     | Inflammation                 | Acute, Minimal |
| * Uterus                 |                                     | Histiocytic Sarcoma          |                |
|                          | Endometrium                         | Hyperplasia                  | Cystic, Marked |

Note: Uterus plus cervix infiltrated with histio sarc.

Note: Histo sarc and marked cystic "hyperplasia" also present on slide 12.

[ Histiocytic Sarcoma TGLs = 2,9-13+11 ]

[ Hyperplasia TGLs = 2-13 ]

**PRIMARY CAUSE OF DEATH** - Liver Histiocytic Sarcoma

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 211

TRT#: 2

SEX: Female

DAY ON TEST: 703

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400660

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Mammary Gland           | * Nose                      | * Parathyroid Gland      | * Pituitary Gland          |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

MISSING

Blood Vessel

AUTO PRECLUDES DIAG.

\* Islets, Pancreatic

OBSERVATIONS

|   |                                     |                               |         |
|---|-------------------------------------|-------------------------------|---------|
| * Bone Marrow   |                                     | Histiocytic Sarcoma           |         |
| * Gallbladder   |                                     |                               |         |
| Note: Marked eosinophilic crystal formation noted.  |                                     |                               |         |
| * Kidney  | Renal Tubule                        | Accumulation, Hyaline Droplet | Minimal |
|   |                                     | Histiocytic Sarcoma           |         |
| Note: Although tissue is severely autolyzed, faint eosinophilic droplets consistent with histo sarc immune response are detectable. |                                     |                               |         |
| * Liver   |                                     | Histiocytic Sarcoma           |         |
| * Lung  |                                     | Histiocytic Sarcoma           |         |
| Lymph Node  |                                     | Histiocytic Sarcoma           |         |
| Note: Mediastinal node infiltrated with histio sarc.  |                                     |                               |         |
|   | [ Histiocytic Sarcoma TGLs = 3-14 ] |                               |         |
| * Lymph Node, Mandibular  |                                     | Histiocytic Sarcoma           |         |
|   | [ Histiocytic Sarcoma TGLs = 2-15 ] |                               |         |
| * Lymph Node, Mesenteric  |                                     | Histiocytic Sarcoma           |         |
| Mesentery   |                                     | Histiocytic Sarcoma           |         |
| * Ovary   |                                     | Histiocytic Sarcoma           |         |
| * Pancreas  |                                     | Histiocytic Sarcoma           |         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 211

TRT#: 2

SEX: Female

DAY ON TEST: 703

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400660

ORGAN AND ACCOUNTABLE SITE STATUS

\* Skin

Note: Histo sarc of subcutis or inguinal node (autolysis precludes certainty).

\* Spleen

[ Histiocytic Sarcoma TGLs = 1-13 ]

Histiocytic Sarcoma

\* Thymus

[ Histiocytic Sarcoma TGLs = 4-14 ]

Histiocytic Sarcoma

\* Uterus

Endometrium

Histiocytic Sarcoma

Hyperplasia

Cystic, Minimal

PRIMARY CAUSE OF DEATH

- Spleen Histiocytic Sarcoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 212

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400661

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Salivary Glands           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| Vagina                      |                          |                            |                           |

**MISSING**

\* Gallbladder

**OBSERVATIONS**

|                  |                |                                   |                                     |
|------------------|----------------|-----------------------------------|-------------------------------------|
| * Adrenal Cortex |                | Accessory Adrenal Cortical Nodule |                                     |
| * Bone           |                | Fibro-Osseous Lesion              | Minimal                             |
| * Kidney         |                | Nephropathy                       | Chronicprogr, Minimal               |
| * Liver          |                | Inflammation                      | Focal, Minimal                      |
| * Lung           |                | Carcinoma                         | Metastatic (Uncertain Primary Site) |
|                  | Alveolar Epith | Hyperplasia                       | Mild                                |
| * Thyroid Gland  | Follicle       | Degeneration                      | Minimal                             |
| * Uterus         |                | Angiectasis                       | Marked                              |
|                  | Endometrium    | Hyperplasia                       | Cystic, Moderate                    |

Note: Numerous markedly dilated vascular channels coded as neoplasm rather than angiectasis due to size and extent.

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 213

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400662

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|                  |  |                       |                       |
|------------------|--|-----------------------|-----------------------|
| * Bone           |  | Fibro-Osseous Lesion  | Minimal               |
| * Kidney         |  | Nephropathy           | Chronicprogr, Minimal |
| * Liver          |  | Infiltration Cellular | Mixed Cell, Minimal   |
| * Nose           | Olfactory Epi  | Metaplasia            | Minimal               |
| * Ovary          |  | Cyst                  |                       |
|                  | [ Cyst TGLs = 2-10 ]                                   |                       |                       |
| * Parathyroid GI |  |                       |                       |
|                  | Note: Thymus present at parathyroid site (unilateral). |                       |                       |
| * Spleen         | White Pulp   | Hyperplasia           | Mild                  |
| * Thyroid Gland  | Follicle   | Degeneration          | Minimal               |
| * Uterus         |  | Angiectasis           | Mild                  |
|                  | Endometrium  | Hyperplasia           | Cystic, Marked        |
|                  |  | Infiltration Cellular | Neutrophil, Minimal   |
|                  | [ Hyperplasia TGLs = 1-11+12 ]                         |                       |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 214

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400663

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|                   |               |                       |                     |
|-------------------|---------------|-----------------------|---------------------|
| * Bone Marrow     |               | Hypercellularity      | Mild                |
| * Liver           |               | Eosinophilic Focus    |                     |
|                   |               | Infiltration Cellular | Mixed Cell, Minimal |
| * Pituitary Gland | Pars Distalis | Hyperplasia           | Minimal             |
| * Thyroid Gland   | Follicle      | Degeneration          | Mild                |
| * Uterus          | Endometrium   | Hyperplasia           | Cystic, Marked      |

[ Hyperplasia TGLs = 1-12+14 ]

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 215

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400664

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Ovary                     | * Pancreas               | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Trachea                   | * Urinary Bladder        | Vagina                     |

OBSERVATIONS

|                   |                |                       |                       |
|-------------------|----------------|-----------------------|-----------------------|
| * Bone            |                | Fibro-Osseous Lesion  | Mild                  |
| * Bone Marrow     |                | Hypercellularity      | Minimal               |
| * Kidney          |                | Nephropathy           | Chronicprogr, Minimal |
| * Liver           |                | Infiltration Cellular | Mixed Cell, Minimal   |
| * Nose            | Olfactory Epi  | Metaplasia            | Minimal               |
| * Pituitary Gland | Pars Distalis  | Hyperplasia           | Minimal               |
| * Spleen          | White Pulp     | Hyperplasia           | Minimal               |
| * Thyroid Gland   | Follicular Cel | Adenoma               |                       |
| * Uterus          | Endometrium    | Hyperplasia           | Cystic, Mild          |



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 216

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400665

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|   |                       |                       |
|---|-----------------------|-----------------------|
| * Adrenal Cortex  | Hypertrophy           | Minimal               |
| * Bone  | Fibro-Osseous Lesion  | Minimal               |
| * Bone Marrow   | Hypercellularity      | Mild                  |
| * Kidney  | Infarct               | Minimal               |
|   | Nephropathy           | Chronicprogr, Minimal |
| * Liver   | Infiltration Cellular | Mixed Cell, Minimal   |
|   | Inflammation          | Focal, Minimal        |
| * Lung  |                       |                       |
| Note: Collection of PMN's located within an airway of unclear significance; no apparent tissue reaction suggests this may be a processing artifact. |                       |                       |
| * Spleen  | Hyperplasia           | Lymphocyte, Mild      |
| * Uterus  | Endometrium           | Cystic, Mild          |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 217

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400666

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

**OBSERVATIONS**

|   |             |                       |                     |
|---|-------------|-----------------------|---------------------|
| * Bone  |             | Fibro-Osseous Lesion  | Minimal             |
| * Liver   |             | Infiltration Cellular | Mixed Cell, Minimal |
| Lymph Node  |             | Hemorrhage            | Marked              |
| Note: Blood-filled cyst replaces most of lumbar lymph node. |             |                       |                     |
| [ Hemorrhage TGLs = 1-13 ]                                  |             |                       |                     |
| * Lymph Node, Mandibular                                    |             | Infiltration Cellular | Mast Cell, Marked   |
| * Ovary   |             |                       |                     |
| Note: One ovary on recut 10I.                               |             |                       |                     |
| * Pancreas  |             | Basophilic Focus      |                     |
| * Spleen  |             | Lymphoma Malignant    |                     |
| * Uterus  | Endometrium | Hyperplasia           | Cystic, Mild        |

Experiment Number: 03038 - 04  
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 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 218

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400667

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                   |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                    |
| * Gallbladder             | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Islets, Pancreatic     |
| * Lung                    | * Lymph Node, Mandibular    | * Mammary Gland          | * Nose                   |
| * Pancreas                | * Parathyroid Gland         | * Salivary Glands        | * Skin                   |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                 |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                   |

OBSERVATIONS

|   |               |                              |                       |
|---|---------------|------------------------------|-----------------------|
| * Bone Marrow   |               | Hypercellularity             | Minimal               |
| * Harderian Gland   |               | Hyperplasia                  | Mild                  |
| * Intestine Small, Jejunum                                    |               | Inflammation                 | Chronic, Minimal      |
| Note: Mixed inflammation of muscle wall and overlying serosa. |               |                              |                       |
| * Kidney  |               | Nephropathy                  | Chronicprogr, Minimal |
| * Liver   |               | Infiltration Cellular        | Mixed Cell, Minimal   |
| * Lymph Node, Mesenteric                                      |               | Extramedullary Hematopoiesis | Minimal               |
|   |               | Hyperplasia                  | Plasma Cell, Moderate |
| * Ovary   | Follicle      | Cyst                         |                       |
|   |               | Luteoma                      |                       |
| [ Luteoma TGLs = 1-10 ]                                       |               |                              |                       |
| * Pituitary Gland   | Pars Distalis | Hyperplasia                  | Minimal               |
| * Uterus  | Endometrium   | Hyperplasia                  | Cystic, Mild          |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
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 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 219

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400668

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                           |                             |                          |
|--------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla        | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                  | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder            | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Islets, Pancreatic     | * Mammary Gland           | * Nose                      | * Parathyroid Gland      |
| * Salivary Glands        | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Trachea                | Vagina                    |                             |                          |

OBSERVATIONS

|   |                         |                                   |                  |
|---|-------------------------|-----------------------------------|------------------|
| * Adrenal Cortex  |                         | Accessory Adrenal Cortical Nodule |                  |
|   | Subcapsular             | Hyperplasia                       | Mild             |
| * Intestine Small, Jejunum  |                         | Lymphoma Malignant                |                  |
| * Kidney  |                         | Lymphoma Malignant                |                  |
| * Liver   |                         | Lymphoma Malignant                |                  |
| * Lung  |                         | Lymphoma Malignant                |                  |
| Lymph Node  |                         | Lymphoma Malignant                |                  |
| Note: Renal, lumbar, mediastinal nodes (TGL's 3,4,5 respectively) infiltrated with lymphoma; pancreatic node (slide 6) also affected. |                         |                                   |                  |
| [ Lymphoma Malignant  | TGLs = 3,4,5-15+16+17 ] |                                   |                  |
| * Lymph Node, Mandibular  |                         | Lymphoma Malignant                |                  |
| [ Lymphoma Malignant  | TGLs = 1-14 ]           |                                   |                  |
| * Lymph Node, Mesenteric  |                         | Lymphoma Malignant                |                  |
| [ Lymphoma Malignant  | TGLs = 6-18 ]           |                                   |                  |
| * Ovary   |                         | Lymphoma Malignant                |                  |
| * Pancreas  |                         | Lymphoma Malignant                |                  |
| * Pituitary Gland   | Pars Distalis           | Hyperplasia                       | Minimal          |
| * Spleen  |                         | Lymphoma Malignant                |                  |
| * Thymus  |                         | Lymphoma Malignant                |                  |
| * Thyroid Gland   | Follicle                | Degeneration                      | Moderate         |
| * Urinary Bladder   |                         | Lymphoma Malignant                |                  |
| * Uterus  | Endometrium             | Hyperplasia                       | Cystic, Moderate |
| [ Hyperplasia   | TGLs = 2-11+12 ]        |                                   |                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 219

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400668

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Animal Note: Lymphoid infiltrates in various unspecified minor organs/tissues may also represent lymphoma infiltration.

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Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 220

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400669

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|  |             |                            |                        |
|--|-------------|----------------------------|------------------------|
| * Bone                                 |             | Fibro-Osseous Lesion       | Minimal                |
| * Kidney                               |             | Nephropathy                | Chronicprogr, Minimal  |
| * Liver                                |             | Infiltration Cellular      | Mixed Cell, Minimal    |
| Mesentery                              | Fat         | Necrosis                   | Moderate               |
| [ Necrosis TGLs = 2-14 ]               |             |                            |                        |
| * Ovary                                |             | Cystadenoma                |                        |
| [ Cystadenoma TGLs = 1-10 ]            |             |                            |                        |
| * Parathyroid GI                       |             |                            |                        |
| Note: Bit of heterotopic thymus noted. |             |                            |                        |
| * Uterus                               | Endometrium | Angiectasis<br>Hyperplasia | Marked<br>Cystic, Mild |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
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 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 221

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400670

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

MISSING

\* Thyroid Gland

OBSERVATIONS

|                      |   |                        |                       |
|----------------------|---|------------------------|-----------------------|
| * Bone               |   | Fibro-Osseous Lesion   | Minimal               |
| * Islets, Pancreatic |   | Hyperplasia            | Minimal               |
| * Kidney             |   | Nephropathy            | Chronicprogr, Minimal |
| * Liver              |   | Hepatocellular Adenoma | Multiple              |
|                      |   | Infiltration Cellular  | Mixed Cell, Minimal   |
|                      | [ Hepatocellular Adenoma TGLs = 3,4-15+16 ] |                        |                       |
| Mesentery            | Fat   | Necrosis               | Moderate              |
|                      | [ Necrosis TGLs = 1-13 ]                    |                        |                       |
| * Nose               | Olfactory Epi                               | Metaplasia             | Minimal               |
| * Ovary              |   | Cystadenoma            |                       |
|                      | [ Cystadenoma TGLs = 2-14 ]                 |                        |                       |
| * Pituitary Gland    | Pars Distalis                               | Hyperplasia            | Minimal               |
| * Spleen             |   | Hyperplasia            | Lymphocyte, Mild      |
| * Uterus             | Endometrium                                 | Hyperplasia            | Cystic, Minimal       |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 222

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400671

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Kidney                  | * Lung                      | * Lymph Node, Mandibular |
| * Mammary Gland            | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

**OBSERVATIONS**

|                          |             |                              |                      |
|--------------------------|-------------|------------------------------|----------------------|
| * Bone Marrow            |             | Hypercellularity             | Marked               |
| * Islets, Pancreatic     |             | Hyperplasia                  | Minimal              |
| * Liver                  |             | Fatty Change                 | Diffuse, Minimal     |
| * Lymph Node, Mesenteric |             | Extramedullary Hematopoiesis | Mild                 |
| * Ovary                  | Follicle    | Cyst                         |                      |
| Note: Blood-filled cyst. |             |                              |                      |
| * Spleen                 | White Pulp  | Hyperplasia                  | Mild                 |
| * Uterus                 | Endometrium | Hyperplasia                  | Cystic, Mild         |
|                          |             | Inflammation                 | Acute, Minimal       |
| Vagina                   |             | Inflammation                 | Chronic Active, Mild |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 223

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400672

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Salivary Glands           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         | Vagina                      |                          |                            |

**OBSERVATIONS**

|  |               |                       |                         |
|--|---------------|-----------------------|-------------------------|
| * Bone                                   |               | Fibro-Osseous Lesion  | Minimal                 |
| * Esophagus                              |               | Inflammation          | Chronic Active, Minimal |
| Note: Mixed inflammation on section 04A. |               |                       |                         |
| * Liver                                  |               | Fatty Change          | Diffuse, Minimal        |
|  |               | Inflammation          | Focal, Minimal          |
| * Ovary                                  | Follicle      | Cyst                  |                         |
|  |               | Cystadenoma           | Multiple                |
| Note: Blood-filled cysts.                |               |                       |                         |
| * Pituitary Gland                        | Pars Distalis | Hyperplasia           | Minimal                 |
| * Spleen                                 | White Pulp    | Hyperplasia           | Minimal                 |
| * Uterus                                 | Endometrium   | Hyperplasia           | Cystic, Minimal         |
|  |               | Infiltration Cellular | Mixed Cell, Mild        |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 224

TRT#: 2

SEX: Female

DAY ON TEST: 432

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400673

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Nose                   | * Ovary                    | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          | * Skin                    |
| * Spleen                    | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           | Vagina                   |                            |                           |

MISSING

\* Clitoral Gland

OBSERVATIONS

|               |  |                  |                   |
|---------------|--|------------------|-------------------|
| * Bone Marrow |  | Hypercellularity | Moderate          |
| * Heart       |  | Inflammation     | Suppurative, Mild |
|               |  | Thrombus         |                   |

Note: Mixed inflammation in heart muscle, marked inflammation in chamber, marked bacterial colonies in aorta (all section 04).

Note: Cause of death related to aortic bacteria and obvious septicemia. Coded in "inflammation" for lack of a better place to code it.

|                        |   |                         |                     |
|------------------------|---|-------------------------|---------------------|
| * Liver                |   | Infiltration Cellular   | Mixed Cell, Minimal |
|                        | Hepatocyte                              | Necrosis                | Minimal             |
| * Stomach, Forestomach | Epithelium                              | Hyperplasia             | Moderate            |
|                        |   | Squamous Cell Papilloma | Multiple            |
| * Thyroid Gland        | Follicle                                | Degeneration            | Minimal             |
| Tongue                 |   | Squamous Cell Papilloma |                     |
|                        | [ Squamous Cell Papilloma TGLs = 1-13 ] |                         |                     |
| * Uterus               | Endometrium                             | Hyperplasia             | Cystic, Minimal     |

PRIMARY CAUSE OF DEATH - Heart Inflammation

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 225

TRT#: 2

SEX: Female

DAY ON TEST: 566

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400674

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Salivary Glands         | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                            |

OBSERVATIONS

|   |             |                              |                       |
|---|-------------|------------------------------|-----------------------|
| * Bone Marrow   |             | Hypercellularity             | Moderate              |
| * Clitoral GI   |             |                              |                       |
| Note: Only one clitoral on slide.   |             |                              |                       |
| * Heart   | Pericardium | Liposarcoma                  | Metastatic (Skin)     |
| [ Liposarcoma TGLs = 2-14 ]   |             |                              |                       |
| * Kidney  |             | Nephropathy                  | Chronicprogr, Minimal |
| * Liver   |             | Infiltration Cellular        | Mixed Cell, Minimal   |
| * Lung  |             | Liposarcoma                  | Metastatic (Skin)     |
| * Mammary GI  |             |                              |                       |
| Note: Mammary gland identified and coded normal from slide 9 periclitral area.  |             |                              |                       |
| * Ovary   |             | Cyst                         |                       |
| * Skin  |             | Liposarcoma                  |                       |
| Note: TGL-1 is subcutaneous neoplasm, not mammary or clitoral gland in origin. Mass has a varied differentiation, from schwannoma to fibrosarc to liposarc. |             |                              |                       |
| Note: Liposarc was coded because of fine lipid vacuoles in most tumor cells, as well as large lipid-filled cells; lipid appears to be carried into mets.    |             |                              |                       |
| [ Liposarcoma TGLs = 1-13 ]   |             |                              |                       |
| * Spleen  |             | Extramedullary Hematopoiesis | Mild                  |
|   |             | Hyperplasia                  | Plasma Cell, Moderate |
| * Thymus  |             | Liposarcoma                  | Metastatic (Skin)     |
| [ Liposarcoma TGLs = 3-15 ]   |             |                              |                       |
| * Uterus  | Endometrium | Hyperplasia                  | Cystic, Mild          |

PRIMARY CAUSE OF DEATH - Skin Liposarcoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 226

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400675

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

INSUFFICIENT TISSUE

- \* Bone Marrow

OBSERVATIONS

- |  |               |                       |                            |
|--|---------------|-----------------------|----------------------------|
| * Islets, Pancreatic                         |               | Hyperplasia           | Minimal                    |
| * Kidney                                     |               | Nephropathy           | Chronicprogr, Minimal      |
| * Liver                                      |               | Eosinophilic Focus    |                            |
|  |               | Infiltration Cellular | Mixed Cell, Minimal        |
| * Lym Node Mesen                             |               |                       |                            |
| Note: Small node with dilated sinus present. |               |                       |                            |
| * Nose                                       | Olfactory Epi | Metaplasia            | Minimal                    |
| * Thymus                                     |               | Hyperplasia           | Atypical, Lymphocyte, Mild |
| Tooth  |               | Dental Dysplasia      | Minimal                    |
| * Uterus                                     | Endometrium   | Hyperplasia           | Cystic, Marked             |
| [ Hyperplasia TGLs = 1-11+12 ]               |               |                       |                            |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 227

TRT#: 2

SEX: Female

DAY ON TEST: 727

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400676

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                          |                           |                          |
|----------------------------|--------------------------|---------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla        | * Bone                    | * Brain                  |
| * Clitoral Gland           | * Esophagus              | * Eye                     | * Gallbladder            |
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic     | * Kidney                  | * Lymph Node, Mandibular |
| * Mammary Gland            | * Nose                   | * Ovary                   | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland        | * Salivary Glands         | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular     | * Trachea                 | * Urinary Bladder        |
| * Uterus                   | Vagina                   |                           |                          |

MISSING

Blood Vessel

AUTO PRECLUDES DIAG.

- \* Intestine Small, Duodenum

OBSERVATIONS

- |  |             |                              |                     |
|--|-------------|------------------------------|---------------------|
| * Bone Marrow  |             | Hypercellularity             | Moderate            |
| * Harderian Gland  |             | Hepatocellular Carcinoma     | Metastatic (Liver)  |
| * Heart  | Pericardium | Hepatocellular Carcinoma     | Metastatic (Liver)  |
| * Liver  | Hepatocyte  | Fatty Change                 | Focal, Minimal      |
|  |             | Hepatocellular Carcinoma     |                     |
|  |             | Infiltration Cellular        | Mixed Cell, Minimal |
| Note: Focal fatty change with necrosis of some hepatocytes on slide 4.<br>[ Hepatocellular Carcinoma TGLs = 1-13 ]   |             |                              |                     |
| * Lung   |             | Hepatocellular Carcinoma     | Metastatic (Liver)  |
| Note: Hepatocarc primary has varied appearance, with significant ring formation; lung mets have mostly ring or trabecular pattern.<br>Note: Several lung masses on slide 14 and 16 have "alveolar" appearance suggestive of small collision AB carcinomas.<br>Note: Lack of AB carcinoma-related alveolar macrophage response suggests even these AB carc-like patterns are really just hepatocarc.<br>[ Hepatocellular Carcinoma TGLs = 2,3,4,5,6,7-14+14+14+16+15+17 ] |             |                              |                     |
| * Lymph Node, Mesenteric   |             | Hemorrhage                   | Marked              |
| * Spleen   |             | Extramedullary Hematopoiesis | Minimal             |
| * Thymus   |             | Hepatocellular Carcinoma     | Metastatic (Liver)  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 227

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 0 mg/L

**DISP:** Natural Death

**HISTO:** 1400676

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

Follicle

Degeneration

Mild

\* Uterus

Note: Mild suppurative exudate noted.

---

**PRIMARY CAUSE OF DEATH**

- Liver Hepatocellular Carcinoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 228

TRT#: 2

SEX: Female

DAY ON TEST: 697

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400677

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Clitoral Gland         | * Esophagus                | * Eye                     |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Mammary Gland             | * Parathyroid Gland      | * Pituitary Gland          | * Skin                    |
| * Stomach, Forestomach      | * Thyroid Gland          | * Trachea                  | Vagina                    |

INSUFFICIENT TISSUE

\* Gallbladder

OBSERVATIONS

|  |  |                    |               |
|--|--|--------------------|---------------|
| * Adren Cortex   |  |                    |               |
| Note: Second adrenal is on slide 9; lymphoma of attached serosa.   |  |                    |               |
| * Bone Marrow  |  | Hypercellularity   | Moderate      |
| * Harderian Gland  |  | Lymphoma Malignant |               |
| * Kidney   |  | Lymphoma Malignant |               |
| * Liver  |  | Fatty Change       | Diffuse, Mild |
|  |  | Lymphoma Malignant |               |
| * Lung   |  | Lymphoma Malignant |               |
| Lymph Node   |  | Lymphoma Malignant |               |
| Note: TGL-3 is fat necrosis plus pancreatic node (lymphoma); also axillary, lumbar (and mediastinal) nodes affected. |  |                    |               |
|  | [ Lymphoma Malignant TGLs = 3,4,5-15+16+17 ] |                    |               |
| * Lymph Node, Mandibular   |  | Lymphoma Malignant |               |
|  | [ Lymphoma Malignant TGLs = 2-13 ]           |                    |               |
| * Lymph Node, Mesenteric   |  | Lymphoma Malignant |               |
| Mesentery  |  | Lymphoma Malignant |               |
|  | Fat  | Necrosis           | Moderate      |
|  | [ Necrosis TGLs = 3-15 ]                     |                    |               |
| * Nose   | Olfactory Epi                                | Metaplasia         | Minimal       |
| * Ovary  |  | Lymphoma Malignant |               |
| * Pancreas   |  | Lymphoma Malignant |               |
| * Salivary Glands  |  | Lymphoma Malignant |               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 228

TRT#: 2

SEX: Female

DAY ON TEST: 697

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400677

ORGAN AND ACCOUNTABLE SITE STATUS

|   |                              |      |
|---|------------------------------|------|
| Skeletal Muscle   | Lymphoma Malignant           |      |
| * Spleen  | Extramedullary Hematopoiesis | Mild |
|   | Lymphoma Malignant           |      |
| * Stomach, Glandular  | Lymphoma Malignant           |      |
| * Thymus  | Lymphoma Malignant           |      |
| Note: Thymus (lymphoma) on slides 7, 7A and 14.<br>[ Lymphoma Malignant TGLs = 1-14 ] |                              |      |
| * Urinary Bladder   | Lymphoma Malignant           |      |
| * Uterus  | Lymphoma Malignant           |      |

PRIMARY CAUSE OF DEATH - Lymph Node, Mesenteric Lymphoma Malignant



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 229

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400678

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Pancreas               | * Pituitary Gland          | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Trachea                | * Urinary Bladder          | Vagina                    |                             |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|   |             |                 |                   |
|---|-------------|-----------------|-------------------|
| * Liver   |             | Inflammation    | Focal, Minimal    |
| * Lymph Node, Mandibular  |             | Hyperplasia     | Plasma Cell, Mild |
| Mesentery   | Fat         | Necrosis        | Moderate          |
| Note: Slide 10 depicts mesenteric fat necrosis, not an ovary as coded on the IANR.<br>[ Necrosis TGLs = 2,3-14+10 ]   |             |                 |                   |
| * Ovary   |             | Atrophy         | Marked            |
| Note: Only one ovary in set (on slide 14). TGL's 2 and 3 are mesenteric fat nodules, not ovaries.   |             |                 |                   |
| Skeletal Muscle   |             | Sarcoma         |                   |
| Note: Mass is not lymph node, but sarcoma invading skeletal muscle of axilla; appearance is that of a myxosarcoma or perhaps malignant schwannoma.<br>Note: Neither myxosarc or schwannoma are included in neoplastic lexicon for skeletal musc.<br>[ Sarcoma TGLs = 1-16 ] |             |                 |                   |
| * Thyroid Gland   | Follicle    | Degeneration    | Mild              |
| * Uterus  | Endometrium | Hemangiosarcoma |                   |
|   |             | Hyperplasia     | Cystic, Mild      |
| [ Hemangiosarcoma TGLs = 4-15 ]   |             |                 |                   |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 230

TRT#: 2

SEX: Female

DAY ON TEST: 588

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400679

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Ovary                    | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Salivary Glands          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| * Uterus                 | Vagina                     |                           |                             |

MISSING

\* Thymus

OBSERVATIONS

\* Kidney

Note: Heterotopic bone noted.

\* Liver

Basophilic Focus

Fatty Change

Diffuse, Minimal

\* Lung

Note: Leukocytosis noted.

\* Spleen

White Pulp

Atrophy

Mild

PRIMARY CAUSE OF DEATH - UNCERTAIN

Animal Note: Leukocytosis (lungs) suggests septicemia of unknown origin.

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 231

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400680

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Ovary                   | * Pancreas                  |
| * Parathyroid Gland      | * Salivary Glands          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        | Vagina                     |                           |                             |

**OBSERVATIONS**

|                   |  |                        |                       |
|-------------------|--|------------------------|-----------------------|
| * Kidney          |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver           |  | Hepatocellular Adenoma |                       |
|                   |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|                   | [ Hepatocellular Adenoma TGLs = 1-14 ] |                        |                       |
| * Lung            | Alveolar Epith                         | Hyperplasia            | Minimal               |
| * Nose            | Olfactory Epi                          | Metaplasia             | Minimal               |
| * Pituitary Gland | Pars Distalis                          | Hyperplasia            | Minimal               |
| * Thyroid Gland   | Follicle                               | Degeneration           | Mild                  |
| * Uterus          | Endometrium                            | Hyperplasia            | Cystic, Minimal       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 232

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400681

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mesenteric    | * Mammary Gland          | * Ovary                    |
| * Pancreas                | * Parathyroid Gland         | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

**INSUFFICIENT TISSUE**

\* Lymph Node, Mandibular

**OBSERVATIONS**

|                   |  |                        |                        |
|-------------------|--|------------------------|------------------------|
| * Bone            |  | Fibro-Osseous Lesion   | Minimal                |
| * Heart           | Artery   | Inflammation           | Chronic Active, Marked |
|                   | Artery   | Metaplasia             | Cartilagenous, Minimal |
| * Kidney          |  | Nephropathy            | Chronicprogr, Minimal  |
| * Liver           |  | Eosinophilic Focus     |                        |
|                   |  | Hepatocellular Adenoma | Multiple               |
|                   |  | Inflammation           | Focal, Minimal         |
|                   | [ Eosinophilic Focus TGLs = 2-14 ]               |                        |                        |
|                   | [ Hepatocellular Adenoma TGLs = 1,3,4-13+15+16 ] |                        |                        |
| * Lung            | Alveolar Epith                                   | Hyperplasia            | Marked                 |
| * Nose            | Respirat Epith                                   | Hyperplasia            | Minimal                |
|                   | Olfactory Epi                                    | Metaplasia             | Minimal                |
| * Pituitary Gland | Pars Distalis                                    | Hyperplasia            | Minimal                |
| * Uterus          | Endometrium                                      | Hyperplasia            | Cystic, Minimal        |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 233

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400682

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Liver                     | * Lung                   |
| * Lymph Node, Mandibular   | * Mammary Gland           | * Pancreas                  | * Parathyroid Gland      |
| * Salivary Glands          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Trachea                   | * Urinary Bladder        |
| * Uterus                   | Vagina                    |                             |                          |

**OBSERVATIONS**

|                               |               |                              |                       |
|-------------------------------|---------------|------------------------------|-----------------------|
| * Bone Marrow                 |               | Hypocellularity              | Minimal               |
| * Kidney                      |               | Nephropathy                  | Chronicprogr, Minimal |
| Note: Heterotopic bone noted. |               |                              |                       |
| * Lymph Node, Mesenteric      |               | Extramedullary Hematopoiesis | Minimal               |
| * Nose                        | Olfactory Epi | Metaplasia                   | Minimal               |
| * Ovary                       |               | Angiectasis                  | Marked                |
| [ Angiectasis TGLs = 1-14 ]   |               |                              |                       |
| * Pituitary Gland             | Pars Distalis | Hyperplasia                  | Minimal               |
| * Thyroid Gland               | Follicle      | Degeneration                 | Minimal               |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 234

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400683

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Trachea                   | * Urinary Bladder        | Vagina                     |

OBSERVATIONS

|                     |  |                                   |                       |
|---------------------|--|-----------------------------------|-----------------------|
| * Adrenal Cortex    |  | Accessory Adrenal Cortical Nodule |                       |
| * Bone Marrow       |  | Hypercellularity                  | Minimal               |
| * Kidney            |  | Nephropathy                       | Chronicprogr, Minimal |
| * Liver             |  | Hepatocellular Adenoma            |                       |
|                     |  | Inflammation                      | Focal, Minimal        |
|                     | [ Hepatocellular Adenoma TGLs = 1-13 ]           |                                   |                       |
| * Mammary Gland     |  | Hyperplasia                       | Mild                  |
| Mesentery           | Fat  | Necrosis                          | Moderate              |
|                     | [ Necrosis TGLs = 3-15 ]                         |                                   |                       |
| * Ovary             | Follicle   | Cyst                              |                       |
|                     | Note: Several corpora hemorrhagica also present. |                                   |                       |
|                     | [ Cyst TGLs = 4-10 ]                             |                                   |                       |
| * Parathyroid Gland |  |                                   |                       |
|                     | Note: Heterotopic thymus present.                |                                   |                       |
| * Pituitary Gland   | Pars Distalis                                    | Adenoma                           |                       |
| * Thyroid Gland     | Follicle   | Degeneration                      | Mild                  |
| * Uterus            | Endometrium                                      | Hyperplasia                       | Cystic, Moderate      |
|                     | [ Hyperplasia TGLs = 2-14 ]                      |                                   |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 235

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400684

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|                      |  |                                |                       |
|----------------------|--|--------------------------------|-----------------------|
| * Bone Marrow        |  | Hypercellularity               | Mild                  |
| * Islets, Pancreatic |  | Hyperplasia                    | Minimal               |
| * Kidney             | Papilla  | Necrosis                       | Minimal               |
|                      |  | Nephropathy                    | Chronicprogr, Minimal |
| * Liver              |  | Eosinophilic Focus             |                       |
|                      |  | Hepatocellular Adenoma         | Multiple              |
|                      | [ Hepatocellular Adenoma TGLs = 3,4,5-6+5+5 ]  |                                |                       |
| * Lung               |  | Alveolar/Bronchiolar Carcinoma | Multiple              |
|                      | Note: Several small neoplastic foci in other lobes interpreted to be "multiple" or spread from large mass in cardiac lobe. |                                |                       |
|                      | Note: Macrophage infiltrate and inflammation related to tumor(s) and not coded separately.                                 |                                |                       |
|                      | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-13 ]   |                                |                       |
| * Nose               | Olfactory Epi  | Metaplasia                     | Minimal               |
| * Ovary              |  | Atrophy                        | Marked                |
| * Thyroid Gland      | Follicle   | Degeneration                   | Mild                  |
| * Uterus             | Endometrium  | Hyperplasia                    | Cystic, Marked        |
|                      | [ Hyperplasia TGLs = 2-11+12 ]   |                                |                       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 236

TRT#: 2

SEX: Female

DAY ON TEST: 729

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400685

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|          |  |                        |                       |
|----------|--|------------------------|-----------------------|
| * Bone   |  | Fibro-Osseous Lesion   | Minimal               |
| * Kidney |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver  |  | Eosinophilic Focus     |                       |
|          |  | Hepatocellular Adenoma |                       |
|          |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|          |  | Mixed Cell Focus       |                       |

Note: Multiple "foci" on several lobes; TGL-2 is expansive eos focus; although larger mass coded "adenoma" present in same lobe on slide 5.

[ Eosinophilic Focus TGLs = 2-15 ]

|                   |               |             |                |
|-------------------|---------------|-------------|----------------|
| * Pituitary Gland | Pars Distalis | Hyperplasia | Moderate       |
| * Uterus          | Endometrium   | Hyperplasia | Cystic, Marked |

[ Hyperplasia TGLs = 1-14 ]



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 237

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400686

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

OBSERVATIONS

|                   |             |                              |                       |
|-------------------|-------------|------------------------------|-----------------------|
| * Kidney          |             | Nephropathy                  | Chronicprogr, Minimal |
| * Liver           |             | Infiltration Cellular        | Mixed Cell, Minimal   |
|                   |             | Inflammation                 | Focal, Minimal        |
| * Lung            |             | Alveolar/Bronchiolar Adenoma |                       |
| * Pituitary Gland |             | Cyst                         |                       |
| * Uterus          | Endometrium | Hyperplasia                  | Cystic, Minimal       |
|                   |             | Infiltration Cellular        | Neutrophil, Minimal   |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 238

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400687

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                          |                           |                             |
|--------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla        | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                  | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder            | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Islets, Pancreatic     | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland          | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland      | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Spleen                 | * Stomach, Forestomach    | * Thymus                    |
| * Thyroid Gland          | * Trachea                | * Urinary Bladder         | Vagina                      |

OBSERVATIONS

|  |             |                       |                        |
|--|-------------|-----------------------|------------------------|
| * Adren Cortex   |             |                       |                        |
| Note: Only one adrenal on slide.   |             |                       |                        |
| * Intestine Small, Jejunum   |             | Inflammation          | Chronic Active, Marked |
| Note: Transmural mixed cell inflammation including serosa present and coded. |             |                       |                        |
| * Kidney   |             | Nephropathy           | Chronicprogr, Minimal  |
| * Liver  |             | Infiltration Cellular | Mixed Cell, Minimal    |
| * Stomach, Glandular   |             | Cyst                  |                        |
| * Uterus   | Endometrium | Hyperplasia           | Cystic, Mild           |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 239

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400688

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

MISSING

\* Ovary

OBSERVATIONS

|                                |               |                  |                       |
|--------------------------------|---------------|------------------|-----------------------|
| * Kidney                       |               | Nephropathy      | Chronicprogr, Minimal |
| * Liver                        |               | Clear Cell Focus |                       |
|                                |               | Inflammation     | Focal, Minimal        |
| Mesentery                      | Fat           | Necrosis         | Moderate              |
| [ Necrosis TGLs = 2-13 ]       |               |                  |                       |
| * Pituitary Gland              | Pars Distalis | Hyperplasia      | Mild                  |
| * Uterus                       | Endometrium   | Hyperplasia      | Cystic, Marked        |
| [ Hyperplasia TGLs = 1-11+12 ] |               |                  |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 240

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400689

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Mammary Gland            |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

OBSERVATIONS

|                          |               |                       |                       |
|--------------------------|---------------|-----------------------|-----------------------|
| * Bone                   |               | Fibro-Osseous Lesion  | Minimal               |
| * Bone Marrow            |               | Hypercellularity      | Minimal               |
| * Kidney                 |               | Nephropathy           | Chronicprogr, Minimal |
| * Liver                  |               | Inflammation          | Focal, Minimal        |
| * Lymph Node, Mesenteric |               | Lymphoma Malignant    |                       |
| * Ovary                  |               | Cyst                  |                       |
| * Pituitary Gland        | Pars Distalis | Hyperplasia           | Mild                  |
| * Thymus                 |               | Lymphoma Malignant    |                       |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Mild          |
|                          |               | Infiltration Cellular | Neutrophil, Minimal   |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 241

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400690

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

**OBSERVATIONS**

|                   |               |                        |                       |
|-------------------|---------------|------------------------|-----------------------|
| * Kidney          |               | Infarct                | Minimal               |
|                   |               | Nephropathy            | Chronicprogr, Minimal |
| * Liver           |               | Eosinophilic Focus     |                       |
|                   |               | Fatty Change           | Diffuse, Mild         |
|                   |               | Hepatocellular Adenoma | Multiple              |
|                   |               | Infiltration Cellular  | Mixed Cell, Minimal   |
| * Ovary           |               | Cyst                   |                       |
| * Pituitary Gland | Pars Distalis | Hyperplasia            | Mild                  |
| * Uterus          | Endometrium   | Hyperplasia            | Cystic, Mild          |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 242

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400691

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Thymus                    |
| * Trachea                | * Urinary Bladder          | Vagina                    |                             |

INSUFFICIENT TISSUE

\* Islets, Pancreatic

OBSERVATIONS

|                      |             |                              |                       |
|----------------------|-------------|------------------------------|-----------------------|
| * Kidney             |             | Nephropathy                  | Chronicprogr, Minimal |
| * Liver              |             | Extramedullary Hematopoiesis | Minimal               |
|                      |             | Hepatocellular Adenoma       |                       |
|                      |             | Infiltration Cellular        | Mixed Cell, Minimal   |
| * Stomach, Glandular |             | Cyst                         |                       |
| * Thyroid Gland      | Follicle    | Degeneration                 | Minimal               |
| * Uterus             | Endometrium | Hyperplasia                  | Cystic, Marked        |
|                      |             | Infiltration Cellular        | Neutrophil, Minimal   |

[ Hyperplasia TGLs = 1-13 ]

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 243

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400692

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                          |                           |                             |
|--------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla        | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                  | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder            | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Islets, Pancreatic     | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland          | * Ovary                   | * Pancreas                  |
| * Pituitary Gland        | * Salivary Glands        | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                 | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | Vagina                   |                           |                             |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                                       |               |                       |                          |
|---------------------------------------|---------------|-----------------------|--------------------------|
| * Intestine Small, Jejunum            |               | Inflammation          | Chronic Active, Moderate |
| * Kidney                              |               | Nephropathy           | Chronicprogr, Minimal    |
| * Liver                               |               | Angiectasis           | Moderate                 |
|                                       |               | Infiltration Cellular | Mixed Cell, Minimal      |
| Lymph Node                            |               | Hyperplasia           | Lymphocyte, Moderate     |
| Note: Mediastinal nodes hyperplastic. |               |                       |                          |
| * Nose                                | Olfactory Epi | Metaplasia            | Minimal                  |
| * Spleen                              | White Pulp    | Hyperplasia           | Moderate                 |
| * Uterus                              | Endometrium   | Hyperplasia           | Cystic, Moderate         |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 244

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400693

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

**OBSERVATIONS**

|                   |               |                       |                        |
|-------------------|---------------|-----------------------|------------------------|
| * Kidney          |               | Nephropathy           | Chronicprogr, Minimal  |
| * Liver           |               | Inflammation          | Focal, Minimal         |
| * Ovary           |               | Cyst                  |                        |
| * Pituitary Gland | Pars Distalis | Hyperplasia           | Minimal                |
| * Thyroid Gland   |               | Inflammation          | Chronic Active, Marked |
| * Uterus          | Endometrium   | Hyperplasia           | Cystic, Moderate       |
|                   |               | Infiltration Cellular | Neutrophil, Minimal    |
| Vagina            |               | Inflammation          | Acute, Moderate        |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 245

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400694

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|               |                                       |                        |                            |
|---------------|---------------------------------------|------------------------|----------------------------|
| * Bone Marrow |                                       | Hypercellularity       | Minimal                    |
| * Kidney      |                                       | Infarct                | Minimal                    |
|               |                                       | Nephropathy            | Chronicprogr, Minimal      |
| * Liver       |                                       | Eosinophilic Focus     |                            |
|               |                                       | Hepatocellular Adenoma |                            |
|               |                                       | Infiltration Cellular  | Mixed Cell, Minimal        |
|               | [ Hepatocellular Adenoma TGLs = 2-6 ] |                        |                            |
| * Lung        | Alveolar Epith                        | Hyperplasia            | Minimal                    |
| * Nose        | Olfactory Epi                         | Metaplasia             | Minimal                    |
| * Thymus      |                                       | Hyperplasia            | Atypical, Lymphocyte, Mild |
| * Uterus      | Endometrium                           | Hyperplasia            | Cystic, Marked             |
|               |                                       | Inflammation           | Acute, Minimal             |
|               | [ Hyperplasia TGLs = 1-11+12 ]        |                        |                            |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 246

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400695

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Liver                     | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|          |               |                      |                       |
|----------|---------------|----------------------|-----------------------|
| * Bone   |               | Fibro-Osseous Lesion | Mild                  |
| * Kidney |               | Nephropathy          | Chronicprogr, Minimal |
| * Nose   | Olfactory Epi | Metaplasia           | Minimal               |
| * Uterus | Endometrium   | Hyperplasia          | Cystic, Mild          |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 247

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400696

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Ovary                    | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         | Vagina                      |

OBSERVATIONS

|   |                |  |                            |
|---|----------------|--|----------------------------|
| * Liver   |                | Hepatocellular Adenoma<br>Inflammation | Multiple<br>Focal, Minimal |
| Note: Additional nodule on slide 04.<br>[ Hepatocellular Adenoma TGLs = 1,2-14+15 ] |                |  |                            |
| * Ovary   |                |  |                            |
| Note: Only one ovary on slide.  |                |  |                            |
| * Pancreas  | Acinus<br>Duct | Atrophy<br>Cyst                        | Marked                     |
| [ Cyst TGLs = 3-16 ]  |                |  |                            |
| * Pituitary Gland   | Pars Distalis  | Hyperplasia                            | Marked                     |
| * Thyroid Gland   | Follicle       | Degeneration                           | Mild                       |
| * Uterus  | Endometrium    | Hyperplasia                            | Cystic, Minimal            |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 248

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400697

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    |
| * Mammary Gland          | * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Trachea                | * Urinary Bladder          | * Uterus                  | Vagina                      |

OBSERVATIONS

|  |                |                              |                       |
|--|----------------|------------------------------|-----------------------|
| * Islets, Pancreatic   |                | Hyperplasia                  | Minimal               |
| * Kidney   |                | Infarct                      | Minimal               |
|  |                | Nephropathy                  | Chronicprogr, Minimal |
| * Liver  |                | Eosinophilic Focus           |                       |
|  |                | Hepatocellular Carcinoma     |                       |
|  |                | Infiltration Cellular        | Mixed Cell, Minimal   |
| Note: Part of liver tumor (slide 13) also on slide 04.<br>[ Hepatocellular Carcinoma TGLs = 1-13 ] |                |                              |                       |
| * Lung   |                | Alveolar/Bronchiolar Adenoma |                       |
| * Nose   | Respirat Epith | Hyperplasia                  | Minimal               |
| * Ovary  |                | Cyst                         |                       |
| * Pituitary Gland  |                | Angiectasis                  | Minimal               |
| * Spleen   |                | Extramedullary Hematopoiesis | Minimal               |
| * Thyroid Gland  | Follicle       | Degeneration                 | Minimal               |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 249

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: 0 mg/L

DISP: Terminal Sacrifice

HISTO: 1400698

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

INSUFFICIENT TISSUE

\* Bone Marrow

OBSERVATIONS

|                   |                                |                               |                       |
|-------------------|--------------------------------|-------------------------------|-----------------------|
| * Clitoral Gland  |                                |                               |                       |
|                   | Note: One clitoral on slide.   |                               |                       |
| * Kidney          |                                | Nephropathy                   | Chronicprogr, Minimal |
| * Liver           |                                | Erythrophagocytosis           | Minimal               |
|                   |                                | Inflammation                  | Focal, Minimal        |
| * Mammary Gland   | Duct                           | Adenocarcinoma                |                       |
|                   | [ Adenocarcinoma TGLs = 2-13 ] |                               |                       |
| * Nose            | Respirat Epith                 | Accumulation, Hyaline Droplet | Minimal               |
|                   | Olfactory Epi                  | Metaplasia                    | Minimal               |
| * Ovary           |                                | Cyst                          |                       |
|                   | [ Cyst TGLs = 1-10 ]           |                               |                       |
| * Pituitary Gland | Pars Distalis                  | Hyperplasia                   | Mild                  |
| * Uterus          | Endometrium                    | Hyperplasia                   | Cystic, Minimal       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 250

TRT#: 2

SEX: Female

DAY ON TEST: 421

DOSE: 0 mg/L

DISP: Natural Death

HISTO: 1400699

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Mammary Gland          | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Salivary Glands          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| * Uterus                 | Vagina                     |                           |                             |

OBSERVATIONS

|   |              |                  |               |
|---|--------------|------------------|---------------|
| * Kidney  | Renal Tubule | Necrosis         | Mild          |
| Note: TGL-1 is mesenteric fat (necrosis), not a renal lesion. |              |                  |               |
| * Liver   |              | Basophilic Focus |               |
|   |              | Fatty Change     | Diffuse, Mild |
| * Lymph Node, Mandibular                                      |              | Atrophy          | Marked        |
| * Lymph Node, Mesenteric                                      |              | Atrophy          | Marked        |
| Mesentery   | Fat          | Necrosis         | Mild          |
| [ Necrosis TGLs = 1-13 ]                                      |              |                  |               |
| * Ovary   |              | Angiectasis      | Mild          |
| * Spleen  | Red Pulp     | Atrophy          | Marked        |
|   | White Pulp   | Atrophy          | Marked        |
| * Thymus  |              | Atrophy          | Marked        |

PRIMARY CAUSE OF DEATH - Kidney Renal Tubule Necrosis

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 251

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400700

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                          |                           |
|-----------------------------|--------------------------|--------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel             | * Clitoral Gland          |
| * Esophagus                 | * Eye                    | * Gallbladder            | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Islets, Pancreatic     | * Lung                    |
| * Lymph Node, Mandibular    | * Mammary Gland          | * Nose                   | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland        | * Salivary Glands         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach   | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                | * Urinary Bladder         |
| Vagina                      |                          |                          |                           |

**OBSERVATIONS**

|   |              |                      |                       |
|---|--------------|----------------------|-----------------------|
| * Bone  |              | Fibro-Osseous Lesion | Minimal               |
| * Bone Marrow   |              | Hypercellularity     | Mild                  |
| * Brain   |              | Polyarteritis Nodosa | Moderate              |
| Note: Significant arteritis in many meningeal arteries.   |              |                      |                       |
| * Intestine Small, Jejunum  | Peyers Patch | Hyperplasia          | Lymphocyte, Marked    |
| * Kidney  |              | Nephropathy          | Chronicprogr, Minimal |
| * Liver   |              | Eosinophilic Focus   |                       |
|   |              | Inflammation         | Focal, Minimal        |
| * Lymph Node, Mesenteric  |              | Hyperplasia          | Lymphocyte, Marked    |
| Note: Mes lymph node and jejunal lymphoid hyperplasia coded rather than lymphoma due to reaction to vasculitis. |              |                      |                       |
| * Uterus  | Endometrium  | Hyperplasia          | Cystic, Minimal       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 252

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400701

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Brain                   | * Clitoral Gland            |
| * Esophagus              | * Eye                      | * Gallbladder             | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas                | * Parathyroid Gland         |
| * Salivary Glands        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Trachea                  | * Urinary Bladder         | Vagina                      |

MISSING

\* Thymus

OBSERVATIONS

|                   |   |                                   |                       |
|-------------------|---|-----------------------------------|-----------------------|
| * Adrenal Cortex  |   | Accessory Adrenal Cortical Nodule |                       |
| * Bone            |   | Fibro-Osseous Lesion              | Minimal               |
| * Bone Marrow     |   | Hypercellularity                  | Minimal               |
| * Harderian Gland |   | Hyperplasia                       | Minimal               |
| * Kidney          |   | Nephropathy                       | Chronicprogr, Minimal |
| * Liver           |   | Eosinophilic Focus                |                       |
|                   |   | Hepatocellular Adenoma            | Multiple              |
|                   |   | Infiltration Cellular             | Mixed Cell, Minimal   |
|                   | [ Hepatocellular Adenoma TGLs = 2,3-14+15 ]   |                                   |                       |
| * Lung            | Alveolar Epith  | Hyperplasia                       | Minimal               |
| * Nose            | Olfactory Epi   | Metaplasia                        | Minimal               |
| * Ovary           |   | Cyst                              |                       |
|                   | Note: Unclear if this depicts a cystic stromal hyperplasia or part of uterus with stroma; stromal was not a choice in site for ovary. |                                   |                       |
|                   | Note: Lesion is also cystic.  |                                   |                       |
|                   | [ Cyst TGLs = 1-13 ]  |                                   |                       |
| * Pituitary Gland | Pars Distalis   | Hyperplasia                       | Minimal               |
| * Thyroid Gland   | Follicle  | Degeneration                      | Minimal               |
| Tooth             |   | Dental Dysplasia                  | Minimal               |
| * Uterus          | Endometrium   | Hyperplasia                       | Cystic, Mild          |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 253

TRT#: 4

SEX: Female

DAY ON TEST: 627

DOSE: 500 mg/L

DISP: Moribund Sacrifice

HISTO: 1400702

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Pancreas                | * Salivary Glands           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         | Vagina                      |                          |                            |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|  |               |                    |                              |
|--|---------------|--------------------|------------------------------|
| * Bone Marrow  |               | Hypercellularity   | Minimal                      |
| * Brain  |               | Carcinoma          | Metastatic (Pituitary Gland) |
|  |               | Compression        | Marked                       |
|  |               | Necrosis           | Moderate                     |
| Note: Significant neuronal necrosis in frontal cortex extending caudally, and in hippocampus.  |               |                    |                              |
| * Kidney   | Renal Tubule  | Necrosis           | Minimal                      |
|  |               | Nephropathy        | Chronicprogr, Minimal        |
| * Liver  |               | Eosinophilic Focus |                              |
|  |               | Tension Lipidosis  |                              |
| [ Eosinophilic Focus TGLs = 2-14 ]   |               |                    |                              |
| * Mammary Gland  |               | Hyperplasia        | Mild                         |
| * Nose   | Olfactory Epi | Metaplasia         | Minimal                      |
| Note: There is unilateral olfactory to resp epith metaplasia and contralateral olfactory to squamous metaplasia with nerve fiber degeneration. |               |                    |                              |
| * Ovary  | Follicle      | Cyst               |                              |
| * Pituitary Gland  | Pars Distalis | Carcinoma          |                              |
| [ Carcinoma TGLs = 1-15 ]  |               |                    |                              |
| * Spleen   | White Pulp    | Atrophy            | Moderate                     |
| * Uterus   | Endometrium   | Hyperplasia        | Cystic, Mild                 |

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Carcinoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 253

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 627

**DOSE:** 500 mg/L

**DISP:** Moribund Sacrifice

**HISTO:** 1400702

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH - Brain Necrosis

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Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 254

TRT#: 4

SEX: Female

DAY ON TEST: 661

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400703

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Kidney                  | * Liver                     | * Lung                   |
| * Lymph Node, Mandibular   | * Mammary Gland           | * Nose                      | * Parathyroid Gland      |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

**OBSERVATIONS**

|   |               |                       |              |
|---|---------------|-----------------------|--------------|
| * Bone Marrow   |               | Hypercellularity      | Minimal      |
| * Islets, Pancreatic  |               | Adenoma               |              |
| * Lymph Node, Mesenteric  |               | Lymphoma Malignant    |              |
| [ Lymphoma Malignant TGLs = 1-13 ]  |               |                       |              |
| * Ovary   | Follicle      | Cyst                  |              |
|   |               | Tubulostromal Adenoma |              |
| Note: Unclear if this recut 10I is stromal hyperplasia with trapped developing follicles or early neoplasm. |               |                       |              |
| * Pancreas  |               | Lymphoma Malignant    |              |
| * Pituitary Gland   | Pars Distalis | Hyperplasia           | Minimal      |
| * Spleen  |               | Lymphoma Malignant    |              |
| [ Lymphoma Malignant TGLs = 2-14 ]  |               |                       |              |
| * Uterus  | Endometrium   | Hyperplasia           | Cystic, Mild |

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 255

TRT#: 4

SEX: Female

DAY ON TEST: 703

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400704

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Ovary                   | * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

OBSERVATIONS

|                                  |                                 |                      |                   |
|----------------------------------|---------------------------------|----------------------|-------------------|
| * Bone                           |                                 | Fibro-Osseous Lesion | Minimal           |
| * Bone Marrow                    |                                 | Hemangiosarcoma      |                   |
|                                  |                                 | Hypercellularity     | Mild              |
| * Kidney                         | Renal Tubule                    | Necrosis             | Minimal           |
| * Liver                          |                                 | Eosinophilic Focus   |                   |
|                                  | Hepatocyte                      | Necrosis             | Minimal           |
| * Lung                           |                                 |                      |                   |
| Note: Agonal leukocytosis noted. |                                 |                      |                   |
| * Mammary Gland                  |                                 | Hyperplasia          | Minimal           |
| Mesentery                        | Fat                             | Necrosis             | Mild              |
|                                  | [ Necrosis TGLs = 3,4-14+15 ]   |                      |                   |
| * Nose                           | Olfactory Epi                   | Metaplasia           | Minimal           |
| * Pituitary Gland                | Pars Distalis                   | Hyperplasia          | Mild              |
| * Spleen                         |                                 | Hemangiosarcoma      |                   |
|                                  | [ Hemangiosarcoma TGLs = 2-13 ] |                      |                   |
| Tooth                            |                                 | Dental Dysplasia     | Minimal           |
| * Uterus                         | Endometrium                     | Hyperplasia          | Cystic, Mild      |
| Vagina                           |                                 | Inflammation         | Suppurative, Mild |

PRIMARY CAUSE OF DEATH - Spleen Hemangiosarcoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 256

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400705

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                          |                           |
|-----------------------------|--------------------------|--------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel             | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                    | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Kidney                 | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland          | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland      | * Salivary Glands         |
| * Skin                      | * Stomach, Glandular     | * Thymus                 | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        | Vagina                   |                           |

OBSERVATIONS

|                            |  |                              |                |
|----------------------------|--|------------------------------|----------------|
| * Bone                     |  | Fibro-Osseous Lesion         | Minimal        |
| * Bone Marrow              |  | Lymphoma Malignant           |                |
| * Intestine Large, Cecum   |  | Pigment                      | Minimal        |
| * Intestine Small, Jejunum |  | Lymphoma Malignant           |                |
|                            | [ Lymphoma Malignant TGLs = 1-13 ]     |                              |                |
| * Islets, Pancreatic       |  | Hyperplasia                  | Minimal        |
| * Liver                    |  | Basophilic Focus             |                |
|                            |  | Hepatocellular Adenoma       |                |
|                            |  | Inflammation                 | Focal, Minimal |
|                            | [ Hepatocellular Adenoma TGLs = 2-14 ] |                              |                |
| * Pituitary Gland          | Pars Distalis                          | Hyperplasia                  | Minimal        |
| * Spleen                   |  | Extramedullary Hematopoiesis | Minimal        |
|                            | White Pulp                             | Hyperplasia                  | Mild           |
| * Stomach, Forestomach     |  | Cyst                         |                |
|                            | Epithelium                             | Hyperplasia                  | Mild           |
| Tooth                      |  | Dental Dysplasia             | Minimal        |
| * Uterus                   | Endometrium                            | Hyperplasia                  | Cystic, Mild   |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 257

TRT#: 4

SEX: Female

DAY ON TEST: 599

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400706

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Liver                   |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas                |
| * Pituitary Gland           | * Salivary Glands        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |
| * Uterus                    | Vagina                   |                            |                           |

MISSING

\* Parathyroid Gland

AUTO PRECLUDES DIAG.

\* Spleen

OBSERVATIONS

|  |          |                                |                       |
|--|----------|--------------------------------|-----------------------|
| * Adrenal Cortex   |          | Hemorrhage                     | Marked                |
| Note: Hemorrhage may be in X zone.   |          |                                |                       |
| * Bone Marrow  |          | Hypercellularity               | Mild                  |
| * Heart  |          | Cardiomyopathy                 | Mild                  |
| * Islets, Pancreatic   |          | Hyperplasia                    | Minimal               |
| * Kidney   |          | Nephropathy                    | Chronicprogr, Minimal |
| * Lung   |          | Alveolar/Bronchiolar Carcinoma | Multiple              |
| Note: Alveolar eosinophilic macrophages scattered throughout. Carc has seeded multiple sites in lung lobe. |          |                                |                       |
| [ Alveolar/Bronchiolar Carcinoma TGLs = 1-13 ]   |          |                                |                       |
| * Nose   |          | Inflammation                   | Suppurative, Mild     |
| * Ovary  | Follicle | Cyst                           |                       |
| Note: Cysts with hemorrhage.   |          |                                |                       |
| * Thymus   |          | Atrophy                        | Mild                  |

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 258

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400707

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Mammary Gland           | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Thymus                    |
| * Trachea                | * Urinary Bladder          | Vagina                    |                             |

**OBSERVATIONS**

|                                   |             |                       |                     |
|-----------------------------------|-------------|-----------------------|---------------------|
| * Clitoral Gland                  |             |                       |                     |
| Note: Only one clitoral on slide. |             |                       |                     |
| * Liver                           |             | Infiltration Cellular | Mixed Cell, Minimal |
| * Lymph Node, Mesenteric          | Lymph Sinus | Ectasia               | Marked              |
| * Ovary                           |             | Cyst                  |                     |
| Note: Only one ovary on slide.    |             |                       |                     |
| [ Cyst TGLs = 2-10 ]              |             |                       |                     |
| * Stomach, Glandular              |             | Cyst                  |                     |
| * Thyroid Gland                   | Follicle    | Degeneration          | Minimal             |
| Tooth                             |             | Dental Dysplasia      | Minimal             |
| * Uterus                          | Endometrium | Hyperplasia           | Cystic, Marked      |
| [ Hyperplasia TGLs = 1-11+12 ]    |             |                       |                     |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 259

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400708

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Brain                     |
| * Clitoral Gland         | * Esophagus                | * Eye                     | * Gallbladder               |
| * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         |                             |

OBSERVATIONS

|   |  |                              |                       |
|---|--|------------------------------|-----------------------|
| * Adrenal Cortex  | Subcapsular                                      | Adenoma                      |                       |
| * Bone Marrow   |  | Hypercellularity             | Minimal               |
| * Harderian Gland   |  | Adenoma                      |                       |
| * Intestine Large, Cecum  |  | Pigment                      | Minimal               |
| * Kidney  |  | Nephropathy                  | Chronicprogr, Minimal |
| * Liver   |  | Eosinophilic Focus           |                       |
|   |  | Hemangiosarcoma              |                       |
|   |  | Hepatocellular Adenoma       | Multiple              |
|   |  | Hepatocellular Carcinoma     |                       |
|   |  | Infiltration Cellular        | Mixed Cell, Minimal   |
|   | [ Hemangiosarcoma TGLs = 2-14 ]                  |                              |                       |
|   | [ Hepatocellular Adenoma TGLs = 3,4,5-15+16+17 ] |                              |                       |
|   | [ Hepatocellular Carcinoma TGLs = 1-13 ]         |                              |                       |
| Lymph Node  |  | Lymphoma Malignant           |                       |
| Note: Lumbar node is TGL-6.   |  |                              |                       |
|   | [ Lymphoma Malignant TGLs = 6-18 ]               |                              |                       |
| * Spleen  |  | Extramedullary Hematopoiesis | Minimal               |
|   |  | Lymphoma Malignant           |                       |
| * Thyroid Gland   | Follicle   | Degeneration                 | Minimal               |
| Tongue  |  | Squamous Cell Papilloma      |                       |
| Note: Sq cell pap selected for this tumor, which morphologically is really a basosquamous adenoma (no such specific choice in lexicon). |  |                              |                       |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 259

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400708

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Squamous Cell Papilloma TGLs = 7-19 ]

\* Uterus  
Vagina

Endometrium

Hyperplasia  
Inflammation

Cystic, Minimal  
Suppurative, Minimal

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Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 260

TRT#: 4

SEX: Female

DAY ON TEST: 629

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400709

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lung                   | * Lymph Node, Mandibular   |
| * Mammary Gland           | * Nose                      | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         | * Uterus                    | Vagina                   |                            |

AUTO PRECLUDES DIAG.

|                          |          |
|--------------------------|----------|
| * Lymph Node, Mesenteric | * Spleen |
|--------------------------|----------|

OBSERVATIONS

|   |                          |          |
|---|--------------------------|----------|
| * Bone  | Fibro-Osseous Lesion     | Minimal  |
| * Bone Marrow   | Hypercellularity         | Marked   |
| * Clitoral GI<br>Note: Only one clitoral on slide.    |                          |          |
| * Liver<br>[ Hepatocellular Carcinoma TGLs = 1-4+13 ] | Hepatocellular Carcinoma |          |
| * Thymus  | Atrophy                  | Moderate |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 261

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400710

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Mammary Gland             | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Salivary Glands        | * Skin                     | * Stomach, Forestomach    |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          | Vagina                    |

OBSERVATIONS

|   |  |                        |                       |
|---|--|------------------------|-----------------------|
| * Bone  |  | Fibro-Osseous Lesion   | Minimal               |
| * Bone Marrow                                 |  | Hypercellularity       | Minimal               |
| * Intestine Large, Cecum                      |  | Pigment                | Minimal               |
| * Islets, Pancreatic                          |  | Hyperplasia            | Minimal               |
| * Kidney                                      |  | Lymphoma Malignant     |                       |
|   |  | Nephropathy            | Chronicprogr, Minimal |
| Note: Heterotopic bone noted.                 |  |                        |                       |
| * Liver                                       |  | Basophilic Focus       |                       |
|   |  | Eosinophilic Focus     |                       |
|   |  | Hepatocellular Adenoma | Multiple              |
|   |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|   |  | Inflammation           | Focal, Minimal        |
|   | Hepatocyte                                       | Necrosis               | Minimal               |
|   | [ Hepatocellular Adenoma TGLs = 1,2,4-13+14+16 ] |                        |                       |
| Lymph Node                                    |  | Lymphoma Malignant     |                       |
| Note: Tracheal/bronchial lymph node affected. |  |                        |                       |
| * Lymph Node, Mandibular                      |  | Lymphoma Malignant     |                       |
| * Lymph Node, Mesenteric                      | Lymph Sinus                                      | Ectasia                | Marked                |
| Mesentery                                     | Fat  | Necrosis               | Marked                |
|   | [ Necrosis TGLs = 3-15 ]                         |                        |                       |
| * Nose  | Olfactory Epi                                    | Metaplasia             | Minimal               |
| * Ovary                                       |  |                        |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 261

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400710

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ORGAN AND ACCOUNTABLE SITE STATUS

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Note: Only one ovary on slide.

\* Spleen

Lymphoma Malignant

\* Stomach, Glandular

Cyst

\* Thymus

Lymphoma Malignant

Tooth

Dental Dysplasia

Minimal

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 262

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400711

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Ovary                    | * Pancreas                | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|                          |             |                              |                |
|--------------------------|-------------|------------------------------|----------------|
| * Liver                  |             | Eosinophilic Focus           |                |
|                          |             | Inflammation                 | Focal, Minimal |
| Mesentery                | Fat         | Necrosis                     | Marked         |
| [ Necrosis TGLs = 1-14 ] |             |                              |                |
| * Spleen                 |             | Extramedullary Hematopoiesis | Minimal        |
| * Uterus                 | Endometrium | Hyperplasia                  | Cystic, Mild   |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 263

TRT#: 4

SEX: Female

DAY ON TEST: 727

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400712

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Mammary Gland             | * Pancreas               | * Pituitary Gland          |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Trachea                 | Vagina                      |                          |                            |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                          |  |                               |         |
|--------------------------|--|-------------------------------|---------|
| * Bone Marrow            |  | Histiocytic Sarcoma           |         |
| * Heart                  |  | Mineral                       | Minimal |
| * Kidney                 | Renal Tubule   | Accumulation, Hyaline Droplet | Mild    |
|                          | Pelvis   | Dilation                      | Mild    |
| * Liver                  |  | Histiocytic Sarcoma           |         |
|                          |  | Histiocytic Sarcoma           |         |
|                          | Note: Histiosarc with secondary hepatocyte necrosis.<br>[ Histiocytic Sarcoma TGLs = 2-4+5+6 ] |                               |         |
| * Lung                   |  | Histiocytic Sarcoma           |         |
| Lymph Node               |  | Histiocytic Sarcoma           |         |
|                          | Note: Mediastinal node affected.   |                               |         |
| * Lymph Node, Mandibular |  | Histiocytic Sarcoma           |         |
| * Lymph Node, Mesenteric |  | Histiocytic Sarcoma           |         |
| * Nose                   |  | Histiocytic Sarcoma           |         |
| * Ovary                  |  | Histiocytic Sarcoma           |         |
| * Spleen                 |  | Extramedullary Hematopoiesis  | Mild    |
|                          |  | Histiocytic Sarcoma           |         |
| * Thymus                 |  | Histiocytic Sarcoma           |         |
| * Thyroid Gland          | Follicle   | Degeneration                  | Minimal |
| * Urinary Bladder        |  | Histiocytic Sarcoma           |         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 263

TRT#: 4

SEX: Female

DAY ON TEST: 727

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400712

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

\* Uterus

Cervix

Histiocytic Sarcoma

[ Histiocytic Sarcoma TGLs = 1-11+13 ]

---

PRIMARY CAUSE OF DEATH

- Liver Histiocytic Sarcoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 264

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400713

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Brain                     |
| * Clitoral Gland         | * Esophagus                | * Eye                     | * Gallbladder               |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             |
| * Ovary                  | * Parathyroid Gland        | * Skin                    | * Trachea                   |

OBSERVATIONS

|                          |  |                        |                       |
|--------------------------|--|------------------------|-----------------------|
| * Bone                   |  | Fibro-Osseous Lesion   | Minimal               |
| * Bone Marrow            |  | Hypercellularity       | Minimal               |
| * Harderian Gland        |  | Lymphoma Malignant     |                       |
| * Heart                  |  | Lymphoma Malignant     |                       |
| * Kidney                 |  | Lymphoma Malignant     |                       |
|                          |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver                  |  | Hepatocellular Adenoma |                       |
|                          |  | Lymphoma Malignant     |                       |
|                          | [ Hepatocellular Adenoma TGLs = 1-13 ] |                        |                       |
| * Lung                   |  | Lymphoma Malignant     |                       |
| * Lymph Node, Mandibular |  | Lymphoma Malignant     |                       |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant     |                       |
| * Nose                   | Olfactory Epi                          | Metaplasia             | Minimal               |
| * Pancreas               |  | Lymphoma Malignant     |                       |
| * Pituitary Gland        | Pars Distalis                          | Hyperplasia            | Minimal               |
| * Salivary Glands        |  | Lymphoma Malignant     |                       |
| * Spleen                 |  | Lymphoma Malignant     |                       |
| * Stomach, Forestomach   |  | Lymphoma Malignant     |                       |
| * Stomach, Glandular     |  | Lymphoma Malignant     |                       |
| * Thymus                 |  | Lymphoma Malignant     |                       |
| * Thyroid Gland          | Follicle                               | Degeneration           | Minimal               |
| * Urinary Bladder        |  | Lymphoma Malignant     |                       |
| * Uterus                 | Endometrium                            | Hyperplasia            | Cystic, Minimal       |
|                          |  | Lymphoma Malignant     |                       |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 264

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400713

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Vagina

Lymphoma Malignant

---

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 265

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 634

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400714

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Nose                      | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                            |

**OBSERVATIONS**

|               |  |                              |                    |
|---------------|--|------------------------------|--------------------|
| * Bone        |  | Fibro-Osseous Lesion         | Minimal            |
| * Bone Marrow |  | Hypercellularity             | Moderate           |
| * Kidney      |  | Nephropathy                  | Chronicprogr, Mild |
| * Liver       |  | Hepatocellular Carcinoma     |                    |
|               | [ Hepatocellular Carcinoma TGLs = 1-13 ] |                              |                    |
| * Spleen      |  | Extramedullary Hematopoiesis | Minimal            |
| * Uterus      | Endometrium                              | Hyperplasia                  | Cystic, Minimal    |

**PRIMARY CAUSE OF DEATH** - Liver Hepatocellular Carcinoma

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 266

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400715

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Salivary Glands         | * Skin                      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | Vagina                   |

**OBSERVATIONS**

|                        |  |                              |                    |
|------------------------|--|------------------------------|--------------------|
| * Bone Marrow          |  | Hypercellularity             | Minimal            |
| * Liver                |  | Eosinophilic Focus           |                    |
|                        |  | Fatty Change                 | Diffuse, Minimal   |
|                        |  | Hepatocellular Carcinoma     |                    |
|                        |  | Inflammation                 | Focal, Minimal     |
|                        | [ Hepatocellular Carcinoma TGLs = 1-13 ] |                              |                    |
| * Lung                 |  | Hepatocellular Carcinoma     | Metastatic (Liver) |
| * Parathyroid Gland    |  | Cyst                         |                    |
| * Pituitary Gland      | Pars Distalis                            | Hyperplasia                  | Mild               |
| * Spleen               |  | Extramedullary Hematopoiesis | Mild               |
| * Stomach, Forestomach | Epithelium                               | Hyperplasia                  | Minimal            |
| * Thyroid Gland        | Follicle                                 | Degeneration                 | Minimal            |
| * Uterus               | Endometrium                              | Hyperplasia                  | Cystic, Mild       |
|                        | [ Hyperplasia TGLs = 2-14 ]              |                              |                    |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 267

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400716

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Trachea                   | * Urinary Bladder        | Vagina                     |

OBSERVATIONS

|                   |   |                        |                |
|-------------------|---|------------------------|----------------|
| * Bone            |   | Fibro-Osseous Lesion   | Minimal        |
| * Harderian Gland |   | Adenoma                |                |
| * Liver           |   | Clear Cell Focus       |                |
|                   |   | Hepatocellular Adenoma | Multiple       |
|                   |   | Inflammation           | Focal, Minimal |
|                   | [ Hepatocellular Adenoma TGLs = 1,2-13+14 ] |                        |                |
| * Lung            | Alveolar Epith                              | Hyperplasia            | Marked         |
| Mesentery         | Fat   | Necrosis               | Moderate       |
|                   | [ Necrosis TGLs = 4-16 ]                    |                        |                |
| * Nose            | Olfactory Epi                               | Metaplasia             | Minimal        |
| * Ovary           | Follicle                                    | Cyst                   |                |
| * Pituitary Gland | Pars Distalis                               | Hyperplasia            | Mild           |
| * Thyroid Gland   | Follicle                                    | Degeneration           | Minimal        |
| * Uterus          | Endometrium                                 | Hyperplasia            | Cystic, Mild   |
|                   | [ Hyperplasia TGLs = 3-15 ]                 |                        |                |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 268

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400717

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | * Uterus                    |
| Vagina                   |                            |                           |                             |

OBSERVATIONS

|                        |               |                              |                |
|------------------------|---------------|------------------------------|----------------|
| * Liver                |               | Inflammation                 | Focal, Minimal |
| * Nose                 | Olfactory Epi | Metaplasia                   | Minimal        |
| * Spleen               |               | Extramedullary Hematopoiesis | Minimal        |
| * Stomach, Forestomach |               | Cyst                         |                |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 269

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400718

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Nose                    | * Ovary                     | * Pancreas               | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|  |               |                              |                       |
|--|---------------|------------------------------|-----------------------|
| * Bone                                 |               | Fibro-Osseous Lesion         | Minimal               |
| * Bone Marrow                          |               | Hypercellularity             | Minimal               |
| * Kidney                               |               | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                                |               | Infiltration Cellular        | Mixed Cell, Minimal   |
| * Lung                                 |               | Thrombus                     |                       |
| * Parathyroid GI                       |               |                              |                       |
| Note: Thymus noted around parathyroid. |               |                              |                       |
| * Pituitary Gland                      |               | Cyst                         |                       |
|  | Pars Distalis | Hyperplasia                  | Minimal               |
| * Spleen                               |               | Extramedullary Hematopoiesis | Minimal               |
| * Uterus                               | Endometrium   | Hyperplasia                  | Cystic, Moderate      |
|  |               | Infiltration Cellular        | Neutrophil, Minimal   |

[ Hyperplasia TGLs = 1-14 ]

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 270

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400719

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Trachea                   | * Urinary Bladder        |
| * Uterus                   | Vagina                    |                             |                          |

**MISSING**

- \* Parathyroid Gland

**OBSERVATIONS**

- |                 |                                    |                              |                       |
|-----------------|------------------------------------|------------------------------|-----------------------|
| * Bone          |                                    | Fibro-Osseous Lesion         | Mild                  |
| * Kidney        |                                    | Nephropathy                  | Chronicprogr, Minimal |
| * Liver         |                                    | Basophilic Focus             |                       |
|                 | Hepatocyte                         | Fatty Change                 | Focal, Minimal        |
|                 |                                    | Infiltration Cellular        | Mixed Cell, Minimal   |
|                 |                                    | Inflammation                 | Focal, Minimal        |
| * Spleen        |                                    | Extramedullary Hematopoiesis | Minimal               |
| * Thymus        |                                    | Lymphoma Malignant           |                       |
|                 | [ Lymphoma Malignant TGLs = 1-13 ] |                              |                       |
| * Thyroid Gland | Follicle                           | Degeneration                 | Minimal               |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 271

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400720

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | Blood Vessel                | * Bone Marrow            | * Brain                  |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder            |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Lung                   |
| * Lymph Node, Mandibular  | * Nose                      | * Pancreas               | * Parathyroid Gland      |
| * Pituitary Gland         | * Salivary Glands           | * Skin                   | * Stomach, Forestomach   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder        |
| Vagina                    |                             |                          |                          |

**OBSERVATIONS**

|  |               |                              |                       |
|--|---------------|------------------------------|-----------------------|
| * Adrenal Medulla                      |               | Thrombus                     |                       |
| * Bone                                 |               | Fibro-Osseous Lesion         | Mild                  |
| * Intestine Small, Jejunum             |               | Lymphoma Malignant           |                       |
| [ Lymphoma Malignant TGLs = 2-14 ]     |               |                              |                       |
| * Islets, Pancreatic                   |               | Hyperplasia                  | Minimal               |
| * Kidney                               |               | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                                |               | Hepatocellular Adenoma       |                       |
|  |               | Infiltration Cellular        | Mixed Cell, Minimal   |
|  |               | Inflammation                 | Focal, Minimal        |
| [ Hepatocellular Adenoma TGLs = 1-13 ] |               |                              |                       |
| * Lymph Node, Mesenteric               |               | Lymphoma Malignant           |                       |
| * Mammary Gland                        |               | Hyperplasia                  | Minimal               |
| * Ovary                                | Corpus Luteum | Hyperplasia                  | Mild                  |
| * Spleen                               |               | Extramedullary Hematopoiesis | Minimal               |
| * Stomach, Glandular                   |               | Cyst                         |                       |
| * Uterus                               | Endometrium   | Hyperplasia                  | Cystic, Moderate      |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 272

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 688

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400721

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lung                    | * Mammary Gland             | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         | * Uterus                    | Vagina                   |                            |

**MISSING**

\* Clitoral Gland

**OBSERVATIONS**

|                          |  |                               |          |
|--------------------------|--|-------------------------------|----------|
| * Bone Marrow            |  | Hypercellularity              | Moderate |
| * Islets, Pancreatic     |  | Hyperplasia                   | Mild     |
| * Kidney                 | Renal Tubule                                   | Accumulation, Hyaline Droplet | Moderate |
|                          | Renal Tubule                                   | Regeneration                  | Moderate |
| * Liver                  |  | Hepatocellular Adenoma        |          |
|                          | [ Hepatocellular Adenoma TGLs = 2-4+6 ]        |                               |          |
| * Lung                   |  |                               |          |
|                          | Note: Leukocytosis present.                    |                               |          |
|                          | Lymph Node                                     | Fibrous Histiocytoma          |          |
|                          | Note: Inguinal and mediastinal nodes affected. |                               |          |
| * Lymph Node, Mandibular |  | Fibrous Histiocytoma          |          |
| * Lymph Node, Mesenteric |  | Fibrous Histiocytoma          |          |
|                          | Mesentery                                      | Fibrous Histiocytoma          |          |
| * Ovary                  | Follicle                                       | Cyst                          |          |
| * Skin                   |  | Fibrous Histiocytoma          |          |
|                          | [ Fibrous Histiocytoma TGLs = 1-13 ]           |                               |          |
| * Spleen                 |  | Extramedullary Hematopoiesis  | Mild     |
|                          |  | Fibrous Histiocytoma          |          |
| * Thymus                 |  |                               |          |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 272

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 688

**DOSE:** 500 mg/L

**DISP:** Natural Death

**HISTO:** 1400721

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: Fibrous histiocytoma in thymus as well as other organs (not available as choice in lexicon).

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**PRIMARY CAUSE OF DEATH** - Skin Fibrous Histiocytoma

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 273

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400722

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Ovary                     | * Parathyroid Gland      | * Salivary Glands          |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                            |

OBSERVATIONS

|                   |  |                          |                       |
|-------------------|--|--------------------------|-----------------------|
| * Bone            |  | Fibro-Osseous Lesion     | Minimal               |
| * Bone Marrow     |  | Hypercellularity         | Minimal               |
| * Kidney          |  | Nephropathy              | Chronicprogr, Minimal |
| * Liver           |  | Hepatocellular Adenoma   |                       |
|                   |  | Hepatocellular Carcinoma |                       |
|                   |  | Infiltration Cellular    | Mixed Cell, Minimal   |
|                   |  | Inflammation             | Focal, Minimal        |
|                   | [ Hepatocellular Adenoma TGLs = 3-15 ]   |                          |                       |
|                   | [ Hepatocellular Carcinoma TGLs = 2-13 ] |                          |                       |
| Mesentery         | Fat                                      | Necrosis                 | Marked                |
|                   | [ Necrosis TGLs = 4-16 ]                 |                          |                       |
| * Nose            | Olfactory Epi                            | Metaplasia               | Minimal               |
| * Pancreas        | Acinus                                   | Hyperplasia              | Minimal               |
| * Pituitary Gland | Pars Distalis                            | Hyperplasia              | Minimal               |
| * Skin            |  | Sarcoma                  |                       |
|                   | [ Sarcoma TGLs = 1-14 ]                  |                          |                       |
| * Thyroid Gland   | Follicle                                 | Degeneration             | Moderate              |
| * Uterus          | Endometrium                              | Hyperplasia              | Cystic, Mild          |
|                   |  | Inflammation             | Suppurative, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 274

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400723

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Liver                     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           |
| * Nose                      | * Ovary                  | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          | Vagina                    |

**OBSERVATIONS**

|                   |                |                       |                       |
|-------------------|----------------|-----------------------|-----------------------|
| * Bone            |                | Increased Bone        | Minimal               |
| * Bone Marrow     |                | Hypercellularity      | Minimal               |
| * Harderian Gland |                | Hyperplasia           | Mild                  |
| * Kidney          | Renal Tubule   | Hyperplasia           | Minimal               |
|                   |                | Nephropathy           | Chronicprogr, Minimal |
| * Lung            | Alveolar Epith | Hyperplasia           | Minimal               |
| * Pancreas        |                | Basophilic Focus      |                       |
| * Pituitary Gland | Pars Distalis  | Hyperplasia           | Mild                  |
| * Spleen          | White Pulp     | Hyperplasia           | Minimal               |
| * Uterus          |                | Angiectasis           | Moderate              |
|                   | Endometrium    | Hyperplasia           | Cystic, Moderate      |
|                   |                | Infiltration Cellular | Neutrophil, Minimal   |

[ Hyperplasia TGLs = 1-14 ]

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 275

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400724

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                            |                          |                           |
|-----------------------------|----------------------------|--------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla          | Blood Vessel             | * Brain                   |
| * Clitoral Gland            | * Esophagus                | * Eye                    | * Gallbladder             |
| * Harderian Gland           | * Heart                    | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Jejunum | * Islets, Pancreatic     | * Mammary Gland           |
| * Nose                      | * Parathyroid Gland        | * Salivary Glands        | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                   | * Thyroid Gland          | * Trachea                 |
| * Urinary Bladder           | Vagina                     |                          |                           |

MISSING

\* Ovary

OBSERVATIONS

|                          |                                    |          |
|--------------------------|------------------------------------|----------|
| * Bone                   | Fibro-Osseous Lesion               | Minimal  |
|                          | Increased Bone                     | Minimal  |
| * Bone Marrow            | Hypercellularity                   | Mild     |
| * Intestine Large, Cecum | Lymphoma Malignant                 |          |
| * Intestine Small, Ileum | Lymphoma Malignant                 |          |
| * Kidney                 | Lymphoma Malignant                 |          |
|                          | [ Lymphoma Malignant TGLs = 6-16 ] |          |
| * Liver                  | Angiectasis                        | Moderate |
|                          | Erythrophagocytosis                | Mild     |
|                          | Extramedullary Hematopoiesis       | Marked   |
|                          | Hepatocellular Adenoma             | Multiple |
|                          | Lymphoma Malignant                 |          |

Note: Unusual pattern of peliosis or angiectasis with marked EMH and prominent megakaryocytes.

Note: Multiple adenomas or atypical hyperplasia; marked EMH and lymphoma have disrupted hepatic architecture.

Note: Many cells in liver vessels suggest histiosarc; lymphoma only coded due to more typical lymphoma pattern in lungs, and lack of eos droplets in kidney.

[ Hepatocellular Adenoma TGLs = 1,4-14; 2,3-13; 12-22 ]

|            |                    |
|------------|--------------------|
| * Lung     | Lymphoma Malignant |
| Lymph Node | Lymphoma Malignant |

Note: Renal, lumbar, mediastinal, and pancreatic nodes affected and noted herein.

Note: EMH and hemorrhage also present in several of these miscellaneous nodes.

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 275

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400724

ORGAN AND ACCOUNTABLE SITE STATUS

|  |                                  |                              |                 |
|--|----------------------------------|------------------------------|-----------------|
| [ Lymphoma Malignant   | TGLs = 7-17; 8-18; 9-19; 11-21 ] |                              |                 |
| * Lymph Node, Mandibular   |                                  | Lymphoma Malignant           |                 |
| [ Lymphoma Malignant   | TGLs = 5-15 ]                    |                              |                 |
| * Lymph Node, Mesenteric   |                                  | Lymphoma Malignant           |                 |
| [ Lymphoma Malignant   | TGLs = 10-20 ]                   |                              |                 |
| Mesentery  |                                  | Lymphoma Malignant           |                 |
| * Pancreas   |                                  | Lymphoma Malignant           |                 |
| * Pituitary Gland  | Pars Distalis                    | Hyperplasia                  | Moderate        |
| * Skin   |                                  | Lymphoma Malignant           |                 |
| * Spleen   |                                  | Extramedullary Hematopoiesis | Mild            |
|  |                                  | Lymphoma Malignant           |                 |
| Note: Cellular morphology of tumor cells in this and other organs is very pleomorphic. Possible animal has both lymphoma and histiosarc. |                                  |                              |                 |
| * Uterus   | Endometrium                      | Hyperplasia                  | Cystic, Minimal |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 276

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400725

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Kidney                  | * Lung                      | * Lymph Node, Mandibular | * Nose                     |
| * Ovary                   | * Pancreas                  | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Trachea                 | * Urinary Bladder           | * Uterus                 | Vagina                     |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                                      |                              |                   |
|--------------------------------------|------------------------------|-------------------|
| * Bone                               | Fibro-Osseous Lesion         | Minimal           |
| [ Fibro-Osseous Lesion TGLs = 1-14 ] |                              |                   |
| * Bone Marrow                        | Hypercellularity             | Marked            |
| * Islets, Pancreatic                 | Carcinoma                    |                   |
| [ Carcinoma TGLs = 2-13 ]            |                              |                   |
| * Liver                              | Angiectasis                  | Minimal           |
|                                      | Eosinophilic Focus           |                   |
|                                      | Inflammation                 | Focal, Minimal    |
| [ Eosinophilic Focus TGLs = 3-15 ]   |                              |                   |
| * Lymph Node, Mesenteric             | Extramedullary Hematopoiesis | Mild              |
|                                      | Hyperplasia                  | Plasma Cell, Mild |
| * Mammary Gland                      | Adenocarcinoma               |                   |
| [ Adenocarcinoma TGLs = 1-14 ]       |                              |                   |
| * Spleen                             | Extramedullary Hematopoiesis | Minimal           |
| * Thyroid Gland                      | Follicle Degeneration        | Mild              |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 277

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400726

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

**OBSERVATIONS**

|  |               |                                       |                                       |
|--|---------------|---------------------------------------|---------------------------------------|
| * Liver                                      |               | Infiltration Cellular<br>Inflammation | Mixed Cell, Minimal<br>Focal, Minimal |
| * Lymph Node, Mesenteric                     |               | Angiectasis<br>Hyperplasia            | Marked<br>Lymphocyte, Marked          |
| [ Angiectasis TGLs = 1-14 ]                  |               |                                       |                                       |
| * Pituitary Gland                            | Pars Distalis | Hyperplasia                           | Minimal                               |
| * Thymus                                     |               |                                       |                                       |
| Note: Parathyroid embedded in thymus tissue. |               |                                       |                                       |
| * Uterus                                     | Endometrium   | Hyperplasia                           | Cystic, Minimal                       |



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 278

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400727

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Brain                    | * Clitoral Gland          |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lung                   | * Lymph Node, Mandibular   | * Mammary Gland           |
| * Nose                      | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Salivary Glands        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        | Vagina                     |                           |

OBSERVATIONS

|                          |             |                      |                  |
|--------------------------|-------------|----------------------|------------------|
| * Adrenal Cortex         |             | Hyperplasia          | Mild             |
| * Bone                   |             | Fibro-Osseous Lesion | Minimal          |
| * Bone Marrow            |             | Hypocellularity      | Minimal          |
| * Liver                  |             | Eosinophilic Focus   |                  |
|                          |             | Inflammation         | Focal, Minimal   |
| * Lymph Node, Mesenteric |             | Hyperplasia          | Lymphocyte, Mild |
| * Uterus                 | Endometrium | Hyperplasia          | Cystic, Mild     |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 279

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400728

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Pancreas                 | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|          |             |   |                     |
|----------|-------------|---|---------------------|
| * Liver  |             | Eosinophilic Focus<br>Infiltration Cellular | Mixed Cell, Minimal |
| * Ovary  |             | Cyst  |                     |
| * Uterus | Endometrium | Hyperplasia                                 | Cystic, Mild        |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 280

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400729

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| * Uterus                   | Vagina                    |                             |                          |

OBSERVATIONS

|                      |  |                          |                       |
|----------------------|--|--------------------------|-----------------------|
| * Bone               |  | Fibro-Osseous Lesion     | Minimal               |
| * Islets, Pancreatic |  | Hyperplasia              | Mild                  |
| * Kidney             |  | Infarct                  | Minimal               |
|                      |  | Nephropathy              | Chronicprogr, Minimal |
| * Liver              |  | Basophilic Focus         |                       |
|                      |  | Hepatocellular Carcinoma |                       |
|                      |  | Infiltration Cellular    | Mixed Cell, Minimal   |
|                      |  | Inflammation             | Focal, Minimal        |
|                      |  | Mixed Cell Focus         |                       |
|                      | [ Basophilic Focus TGLs = 2-14 ]         |                          |                       |
|                      | [ Hepatocellular Carcinoma TGLs = 1-13 ] |                          |                       |
| * Nose               | Olfactory Epi                            | Metaplasia               | Minimal               |
| * Ovary              | Follicle                                 | Cyst                     |                       |
| * Pituitary Gland    | Pars Distalis                            | Hyperplasia              | Minimal               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 281

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400730

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

**OBSERVATIONS**

|                      |  |                              |                       |
|----------------------|--|------------------------------|-----------------------|
| * Bone               |  | Fibro-Osseous Lesion         | Minimal               |
| * Kidney             |  | Infarct                      | Mild                  |
|                      |  | Nephropathy                  | Chronicprogr, Minimal |
| * Liver              |  | Hepatocellular Adenoma       |                       |
|                      |  | Infiltration Cellular        | Mixed Cell, Minimal   |
|                      |  | Inflammation                 | Focal, Minimal        |
|                      | [ Hepatocellular Adenoma TGLs = 1-13 ] |                              |                       |
| * Nose               | Respirat Epith                         | Hyperplasia                  | Mild                  |
|                      | Olfactory Epi                          | Metaplasia                   | Minimal               |
| * Spleen             |  | Extramedullary Hematopoiesis | Minimal               |
| * Stomach, Glandular | Glands                                 | Necrosis                     | Minimal               |
| * Uterus             | Endometrium                            | Hyperplasia                  | Cystic, Mild          |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 282

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400731

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

**OBSERVATIONS**

|                      |               |                       |                      |
|----------------------|---------------|-----------------------|----------------------|
| * Bone Marrow        |               | Hypercellularity      | Minimal              |
| * Heart              | Valve         | Inflammation          | Chronic Active, Mild |
| * Liver              |               | Eosinophilic Focus    |                      |
|                      |               | Infiltration Cellular | Mixed Cell, Minimal  |
|                      |               | Inflammation          | Focal, Minimal       |
| * Ovary              | Follicle      | Cyst                  |                      |
| * Pancreas           | Acinus        | Atrophy               | Minimal              |
| * Pituitary Gland    | Pars Distalis | Hyperplasia           | Minimal              |
| * Spleen             | White Pulp    | Hyperplasia           | Mild                 |
| * Stomach, Glandular |               | Cyst                  |                      |
| * Uterus             | Endometrium   | Hyperplasia           | Cystic, Marked       |
|                      |               | Inflammation          | Acute, Minimal       |

[ Hyperplasia TGLs = 1-11+12 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 283

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400732

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Ovary                     | * Pancreas               | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                            |

MISSING

\* Thymus

OBSERVATIONS

|                      |  |                        |                       |
|----------------------|--|------------------------|-----------------------|
| * Bone               |  | Fibro-Osseous Lesion   | Minimal               |
| * Gallbladder        |  | Cyst                   |                       |
| * Kidney             |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver              |  | Hepatocellular Adenoma |                       |
|                      |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|                      | [ Hepatocellular Adenoma TGLs = 1-13 ] |                        |                       |
| * Nose               | Olfactory Epi                          | Metaplasia             | Minimal               |
| * Pituitary Gland    | Pars Distalis                          | Hyperplasia            | Minimal               |
| * Spleen             | White Pulp                             | Hyperplasia            | Minimal               |
| * Stomach, Glandular |  | Cyst                   |                       |
| * Uterus             | Endometrium                            | Hyperplasia            | Cystic, Mild          |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 284

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400733

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Mammary Gland          | * Nose                     | * Ovary                   | * Pancreas                  |
| * Parathyroid Gland      | * Pituitary Gland          | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          | Vagina                    |                             |

**OBSERVATIONS**

|                          |                |              |                               |
|--------------------------|----------------|--------------|-------------------------------|
| * Kidney                 | Renal Tubule   | Necrosis     | Minimal                       |
|                          |                | Nephropathy  | Chronicprogr, Minimal         |
| * Liver                  |                | Inflammation | Focal, Minimal                |
|                          | Hepatocyte     | Necrosis     | Minimal                       |
| * Lung                   | Alveolar Epith | Hyperplasia  | Mild                          |
| * Lymph Node, Mesenteric |                | Hyperplasia  | Lymphocyte, Mild              |
| * Thymus                 |                | Hyperplasia  | Atypical, Lymphocyte, Minimal |
| * Uterus                 | Endometrium    | Hyperplasia  | Cystic, Marked                |

[ Hyperplasia TGLs = 1-11+12 ]

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 285

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 500 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400734

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Ovary                   | * Pancreas                  |
| * Salivary Glands        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | Vagina                     |                           |                             |

**OBSERVATIONS**

- |                      |   |                               |                       |
|----------------------|---|-------------------------------|-----------------------|
| * Islets, Pancreatic |   | Hyperplasia                   | Minimal               |
| * Kidney             |   | Nephropathy                   | Chronicprogr, Minimal |
| * Liver              |   | Eosinophilic Focus            |                       |
|                      |   | Hepatocellular Adenoma        | Multiple              |
|                      |   | Inflammation                  | Focal, Minimal        |
|                      |   | Mixed Cell Focus              |                       |
|                      | [ Hepatocellular Adenoma TGLs = 2,3-13+14 ] |                               |                       |
| * Nose               | Respirat Epith                              | Accumulation, Hyaline Droplet | Minimal               |
| * Parathyroid Gland  |   | Cyst                          |                       |
| * Pituitary Gland    | Pars Distalis                               | Hyperplasia                   | Minimal               |
| * Uterus             | Endometrium                                 | Hyperplasia                   | Cystic, Marked        |
|                      |   | Inflammation                  | Acute, Minimal        |
|                      | [ Hyperplasia TGLs = 1-11+12 ]              |                               |                       |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 286

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400735

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Nose                    | * Ovary                     | * Pancreas               | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |
| Vagina                    |                             |                          |                            |

OBSERVATIONS

|   |               |                              |                         |
|---|---------------|------------------------------|-------------------------|
| * Bone  |               | Fibro-Osseous Lesion         | Minimal                 |
| * Bone Marrow   |               | Hypocellularity              | Minimal                 |
| * Kidney  |               | Nephropathy                  | Chronicprogr, Minimal   |
| * Liver   |               | Basophilic Focus             |                         |
|   |               | Inflammation                 | Chronic Active, Minimal |
| Note: Inflammation is typical of granuloma, with necrotic center. |               |                              |                         |
| * Lung  |               | Alveolar/Bronchiolar Adenoma |                         |
| * Pituitary Gland   | Pars Distalis | Hyperplasia                  | Minimal                 |
| * Thyroid Gland   | Follicle      | Degeneration                 | Minimal                 |
| Note: Thymus embedded in thyroid.                                 |               |                              |                         |
| * Uterus  | Endometrium   | Hyperplasia                  | Cystic, Marked          |
| [ Hyperplasia TGLs = 1-11+12+14 ]                                 |               |                              |                         |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 287

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400736

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Nose                      | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Salivary Glands           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Trachea                  |
| * Urinary Bladder         | * Uterus                    | Vagina                   |                            |

OBSERVATIONS

|                   |   |                                |                         |
|-------------------|---|--------------------------------|-------------------------|
| * Bone            |   | Fibro-Osseous Lesion           | Minimal                 |
| * Heart           | Valve   | Inflammation                   | Chronic Active, Minimal |
| * Liver           |   | Eosinophilic Focus             |                         |
|                   |   | Hepatocellular Adenoma         |                         |
|                   |   | Inflammation                   | Focal, Minimal          |
|                   | [ Eosinophilic Focus TGLs = 1-13 ]            |                                |                         |
|                   | [ Hepatocellular Adenoma TGLs = 2-5 ]         |                                |                         |
| * Lung            |   | Alveolar/Bronchiolar Carcinoma |                         |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 3-4 ] |                                |                         |
| * Pituitary Gland | Pars Distalis                                 | Hyperplasia                    | Mild                    |
| * Thyroid Gland   | Follicle                                      | Degeneration                   | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 288

TRT#: 4

SEX: Female

DAY ON TEST: 518

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400737

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Liver                   | * Lung                      |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | * Uterus                    |
| Vagina                   |                            |                           |                             |

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

|   |              |             |         |
|---|--------------|-------------|---------|
| * Islets, Pancreatic  |              | Hyperplasia | Minimal |
| * Kidney  | Renal Tubule | Necrosis    | Minimal |
| Note: Acute tubular necrosis noted and cited as COD but may be agonal change related to some undetermined condition that resulted in organ failure and death. |              |             |         |
| * Ovary   |              |             |         |
| Note: One full ovary presented.   |              |             |         |
| * Spleen  | White Pulp   | Atrophy     | Mild    |

PRIMARY CAUSE OF DEATH - Kidney Renal Tubule Necrosis

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 289

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 500 mg/L

DISP: Natural Death

HISTO: 1400738

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Mammary Gland          |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | * Uterus                 |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|                          |  |                              |                         |
|--------------------------|--|------------------------------|-------------------------|
| * Bone Marrow            |  | Hypercellularity             | Minimal                 |
| * Kidney                 |  | Nephropathy                  | Chronicprogr, Mild      |
| * Liver                  |  | Hepatocellular Adenoma       |                         |
|                          | [ Hepatocellular Adenoma TGLs = 1-13 ] |                              |                         |
| * Lung                   |  | Inflammation                 | Chronic Active, Minimal |
| * Lymph Node, Mesenteric |  | Atrophy                      | Moderate                |
| * Nose                   | Olfactory Epi                          | Metaplasia                   | Minimal                 |
| * Spleen                 |  | Extramedullary Hematopoiesis | Minimal                 |
| * Thymus                 |  | Atrophy                      | Marked                  |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 290

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400739

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Clitoral Gland         | * Esophagus                | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Mammary Gland          | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Trachea                 |
| * Urinary Bladder           | Vagina                   |                            |                           |

OBSERVATIONS

|                          |  |                       |                     |
|--------------------------|--|-----------------------|---------------------|
| * Bone Marrow            |  | Hypercellularity      | Minimal             |
| * Eye                    | Lens   | Cataract              | Mild                |
|                          | [ Cataract TGLs = 2-8 ]  |                       |                     |
| * Harderian Gland        |  | Adenoma               |                     |
|                          | [ Adenoma TGLs = 3-8 ]   |                       |                     |
| * Heart                  |  |                       |                     |
|                          | Note: Atria contains floating harderian gland epithelium.  |                       |                     |
| * Kidney                 |  | Lymphoma Malignant    |                     |
| * Liver                  |  | Infiltration Cellular | Mixed Cell, Minimal |
|                          |  | Lymphoma Malignant    |                     |
| * Lung                   |  |                       |                     |
|                          | Note: Pulmonary vessels are plugged with iatrogenic or agonal thrombi of harderian gland origin. |                       |                     |
| * Lymph Node, Mandibular |  | Hyperplasia           | Lymphocyte, Mild    |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant    |                     |
| Mesentery                | Fat  | Necrosis              | Marked              |
|                          | [ Necrosis TGLs = 1-14 ]   |                       |                     |
| * Spleen                 |  | Lymphoma Malignant    |                     |
| * Thymus                 |  | Lymphoma Malignant    |                     |
| * Thyroid Gland          | Follicle   | Degeneration          | Minimal             |
| * Uterus                 |  | Infiltration Cellular | Neutrophil, Minimal |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 291

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400740

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Mammary Gland            | * Nose                    | * Ovary                     |
| * Pancreas               | * Pituitary Gland          | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        | * Uterus                   | Vagina                    |                             |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                             |          |                              |                         |
|-----------------------------|----------|------------------------------|-------------------------|
| * Kidney                    |          | Infiltration Cellular        | Mononuclear CI, Minimal |
| * Liver                     |          | Inflammation                 | Focal, Minimal          |
| * Lymph Node, Mesenteric    |          | Hyperplasia                  | Lymphocyte, Moderate    |
| [ Hyperplasia TGLs = 1-13 ] |          |                              |                         |
| * Spleen                    |          | Extramedullary Hematopoiesis | Minimal                 |
| * Thyroid Gland             | Follicle | Degeneration                 | Minimal                 |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 292

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400741

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Kidney                  |
| * Lung                      | * Mammary Gland          | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           | * Uterus                 | Vagina                     |                           |

OBSERVATIONS

|                              |  |                              |                              |
|------------------------------|--|------------------------------|------------------------------|
| * Bone                       |  | Fibro-Osseous Lesion         | Minimal                      |
| * Bone Marrow                |  | Hypercellularity             | Moderate                     |
| * Heart                      | Coron Artery                             | Inflammation                 | Chronic Active, Mild         |
| * Islets, Pancreatic         |  | Hyperplasia                  | Minimal                      |
| * Liver                      |  | Hepatocellular Adenoma       | Multiple                     |
|                              |  | Inflammation                 | Focal, Minimal               |
|                              | [ Hepatocellular Adenoma TGLs = 1,3-13 ] |                              |                              |
| * Lymph Node, Mandibular     |  | Hyperplasia                  | Lymphocyte, Marked           |
| * Lymph Node, Mesenteric     |  | Hyperplasia                  | Lymphocyte, Marked           |
| Mesentery                    | Fat                                      | Necrosis                     | Marked                       |
|                              | [ Necrosis TGLs = 2-14 ]                 |                              |                              |
| * Ovary                      |  |                              |                              |
| Note: Only 1 ovary on slide. |  |                              |                              |
| * Pituitary Gland            |  | Angiectasis                  | Mild                         |
|                              | Pars Distalis                            | Hyperplasia                  | Marked                       |
| * Spleen                     |  | Extramedullary Hematopoiesis | Minimal                      |
|                              | White Pulp                               | Hyperplasia                  | Mild                         |
| * Thymus                     |  | Hyperplasia                  | Atypical, Lymphocyte, Marked |

Animal Note: Lymphoid reaction interpreted to be hyperplastic in association with arteritis and not stand-alone lymphoma.

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 293

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400742

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                           |                             |                          |
|--------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                  | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder            | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Islets, Pancreatic     | * Mammary Gland           | * Ovary                     | * Pancreas               |
| * Parathyroid Gland      | * Pituitary Gland         | * Salivary Glands           | * Stomach, Forestomach   |
| * Stomach, Glandular     | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder        | Vagina                    |                             |                          |

OBSERVATIONS

- |  |               |                                |                       |
|--|---------------|--------------------------------|-----------------------|
| * Bone Marrow                                  |               | Lymphoma Malignant             |                       |
| * Intestine Small, Jejunum                     |               | Lymphoma Malignant             |                       |
| [ Lymphoma Malignant TGLs = 8-20 ]             |               |                                |                       |
| * Kidney                                       |               | Nephropathy                    | Chronicprogr, Minimal |
| Larynx   |               | Infiltration Cellular          | Mixed Cell, Minimal   |
| * Liver  |               | Basophilic Focus               |                       |
|  |               | Eosinophilic Focus             |                       |
|  |               | Hepatocellular Adenoma         | Multiple              |
|  |               | Hepatocellular Carcinoma       |                       |
|  |               | Infiltration Cellular          | Mixed Cell, Minimal   |
| [ Hepatocellular Adenoma TGLs = 2,3-14+15 ]    |               |                                |                       |
| [ Hepatocellular Carcinoma TGLs = 1-13 ]       |               |                                |                       |
| * Lung   |               | Alveolar/Bronchiolar Carcinoma |                       |
|  |               | Hepatocellular Carcinoma       | Metastatic (Liver)    |
| [ Alveolar/Bronchiolar Carcinoma TGLs = 7-19 ] |               |                                |                       |
| Lymph Node                                     |               | Lymphoma Malignant             |                       |
| Note: Mediastinal node.                        |               |                                |                       |
| * Lymph Node, Mandibular                       |               | Hyperplasia                    | Plasma Cell, Moderate |
| * Lymph Node, Mesenteric                       |               | Lymphoma Malignant             |                       |
| * Nose   | Olfactory Epi | Metaplasia                     | Minimal               |
| * Skin   | Epidermis     | Hyperplasia                    | Marked                |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 293

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400742

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ORGAN AND ACCOUNTABLE SITE STATUS

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Ulcer

Minimal

[ Hyperplasia TGLs = 4,5,6-16+17+18 ]

Lymphoma Malignant

\* Spleen

Hyperplasia

\* Uterus

Endometrium

Cystic, Moderate

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 294

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400743

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|  |               |                              |                       |
|--|---------------|------------------------------|-----------------------|
| * Harderian Gland  |               | Adenoma                      |                       |
| * Kidney   | Renal Tubule  | Necrosis                     | Minimal               |
|  |               | Nephropathy                  | Chronicprogr, Minimal |
| * Liver  |               | Basophilic Focus             |                       |
|  |               | Infiltration Cellular        | Mixed Cell, Minimal   |
|  |               | Inflammation                 | Focal, Minimal        |
| * Lung   |               | Alveolar/Bronchiolar Adenoma |                       |
| Lymph Node   |               | Ectasia                      | Marked                |
|  |               | Hemorrhage                   | Marked                |
| Note: Dilated and hemorrhagic sinus in lumbar node.<br>[ Ectasia TGLs = 1-13 ]<br>[ Hemorrhage TGLs = 1-13 ]               |               |                              |                       |
| Mesentery  |               | Mesothelioma Malignant       |                       |
| Note: Loosely adhered mesenchymal cells noted in association with most abdominal organs; rare mitoses noted (see slide 4). |               |                              |                       |
| * Nose   | Olfactory Epi | Metaplasia                   | Minimal               |
| * Thyroid Gland  | Follicle      | Degeneration                 | Mild                  |
| * Uterus   | Endometrium   | Hyperplasia                  | Cystic, Minimal       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 295

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400744

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    | * Pancreas                  |
| * Salivary Glands        | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                   |   |   |   |
|-------------------|---|---|---|
| * Kidney          | Renal Tubule                                | Hyperplasia<br>Nephropathy                                      | Minimal<br>Chronicprogr, Minimal                  |
| * Liver           | Hepatocyte                                  | Fatty Change<br>Hepatocellular Adenoma<br>Infiltration Cellular | Focal, Minimal<br>Multiple<br>Mixed Cell, Minimal |
|                   | [ Hepatocellular Adenoma TGLs = 2,3-14+15 ] |   |   |
| * Lung            | Alveolar Epith                              | Hyperplasia   | Minimal   |
| * Ovary           |   | Cyst  |   |
| * Pituitary Gland |   | Angiectasis   | Minimal   |
|                   | Pars Distalis                               | Hyperplasia   | Mild  |
| * Skin            |   | Fibrosarcoma  |   |
|                   | [ Fibrosarcoma TGLs = 1-13 ]                |   |   |
| * Spleen          |   | Extramedullary Hematopoiesis                                    | Minimal   |
| * Uterus          | Endometrium                                 | Hyperplasia   | Cystic, Minimal                                   |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 296

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400745

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

OBSERVATIONS

|                          |   |                        |                     |
|--------------------------|---|------------------------|---------------------|
| * Harderian Gland        |   | Adenoma                |                     |
| * Liver                  |   | Eosinophilic Focus     |                     |
|                          |   | Hepatocellular Adenoma | Multiple            |
|                          |   | Infiltration Cellular  | Mixed Cell, Minimal |
|                          |   | Mixed Cell Focus       |                     |
|                          | [ Hepatocellular Adenoma TGLs = 1,2-5 ] |                        |                     |
| * Lymph Node, Mandibular |   | Lymphoma Malignant     |                     |
| * Nose                   | Olfactory Epi                           | Metaplasia             | Minimal             |
| * Pituitary Gland        | Pars Distalis                           | Hyperplasia            | Mild                |
| * Spleen                 |   | Lymphoma Malignant     |                     |
| * Stomach, Glandular     |   | Cyst                   |                     |
| * Thymus                 |   | Lymphoma Malignant     |                     |
| * Thyroid Gland          | Follicle                                | Degeneration           | Minimal             |
| * Uterus                 | Endometrium                             | Hyperplasia            | Cystic, Minimal     |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 297

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400746

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

- |                 |               |                       |                       |
|-----------------|---------------|-----------------------|-----------------------|
| * Bone Marrow   |               | Hypercellularity      | Minimal               |
| * Kidney        |               | Nephropathy           | Chronicprogr, Minimal |
| * Liver         |               | Infiltration Cellular | Mixed Cell, Minimal   |
|                 |               | Inflammation          | Focal, Minimal        |
| * Nose          | Olfactory Epi | Metaplasia            | Minimal               |
| * Ovary         |               | Cystadenoma           |                       |
| * Thyroid Gland | Follicle      | Degeneration          | Minimal               |
| * Uterus        | Endometrium   | Hyperplasia           | Cystic, Moderate      |
|                 |               | Inflammation          | Suppurative, Mild     |

[ Hyperplasia TGLs = 1-11+12 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 298

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400747

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Mammary Gland          |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

**OBSERVATIONS**

- |  |               |                              |                       |
|--|---------------|------------------------------|-----------------------|
| * Bone Marrow  |               | Hypercellularity             | Mild                  |
| * Islets, Pancreatic   |               | Hyperplasia                  | Minimal               |
| * Kidney   |               | Nephropathy                  | Chronicprogr, Minimal |
| * Liver  |               | Extramedullary Hematopoiesis | Minimal               |
|  |               | Infiltration Cellular        | Mixed Cell, Minimal   |
| * Lymph Node, Mesenteric   |               | Extramedullary Hematopoiesis | Minimal               |
|  |               | Hyperplasia                  | Lymphocyte, Mild      |
| Mesentery  | Fat           | Necrosis                     | Marked                |
| Note: Moderate neutrophilic inflammation associated with necrotic fat. |               |                              |                       |
| [ Necrosis TGLs = 1,2,3-13+14+10 ]                                     |               |                              |                       |
| * Nose   | Olfactory Epi | Metaplasia                   | Minimal               |
| * Spleen   | White Pulp    | Hyperplasia                  | Minimal               |
| * Uterus   | Endometrium   | Hyperplasia                  | Cystic, Minimal       |
| [ Hyperplasia TGLs = 4-15 ]  |               |                              |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 299

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400748

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|   |                                    |                      |                         |
|---|------------------------------------|----------------------|-------------------------|
| * Adren Medulla   |                                    |                      |                         |
| Note: Darker tintorial focus attributed to staining artifact. |                                    |                      |                         |
| * Bone  |                                    | Fibro-Osseous Lesion | Minimal                 |
| * Kidney  |                                    | Nephropathy          | Chronicprogr, Minimal   |
| * Liver   |                                    | Eosinophilic Focus   |                         |
|   |                                    | Inflammation         | Focal, Minimal          |
| * Pituitary Gland   | Pars Distalis                      | Hyperplasia          | Mild                    |
| * Spleen  |                                    | Lymphoma Malignant   |                         |
|   | [ Lymphoma Malignant TGLs = 2-13 ] |                      |                         |
| * Thyroid Gland   |                                    | Inflammation         | Chronic Active, Minimal |
| * Uterus  | Endometrium                        | Hyperplasia          | Cystic, Moderate        |
|   | [ Hyperplasia TGLs = 1-11+12 ]     |                      |                         |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 300

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400749

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Mammary Gland             | * Ovary                  | * Parathyroid Gland        | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           | Vagina                   |                            |                           |

OBSERVATIONS

|   |  |                               |                    |
|---|--|-------------------------------|--------------------|
| * Bone Marrow   |  | Lymphoma Malignant            |                    |
| * Brain   |  | Lymphoma Malignant            |                    |
| * Heart   | Valve                                    | Inflammation                  | Chronic, Minimal   |
|   | Valve                                    | Thrombus                      |                    |
| * Kidney  |  | Lymphoma Malignant            |                    |
| * Liver   |  | Hepatocellular Carcinoma      |                    |
|   |  | Infiltration Cellular         | Mixed Cell, Mild   |
|   | Hepatocyte                               | Lymphoma Malignant            |                    |
|   | [ Hepatocellular Carcinoma TGLs = 1-13 ] | Necrosis                      | Minimal            |
| * Lung  |  | Hepatocellular Carcinoma      | Metastatic (Liver) |
| Lymph Node  |  | Lymphoma Malignant            |                    |
| Note: Tracheal-bronchial node and renal (TGL 4) affected. |  |                               |                    |
|   | [ Lymphoma Malignant TGLs = 4-16 ]       |                               |                    |
| * Lymph Node, Mandibular                                  |  | Lymphoma Malignant            |                    |
| * Lymph Node, Mesenteric                                  |  | Lymphoma Malignant            |                    |
| Mesentery   |  | Lymphoma Malignant            |                    |
|   | Fat                                      | Necrosis                      | Marked             |
|   | [ Necrosis TGLs = 3-15 ]                 |                               |                    |
| * Nose  | Respirat Epith                           | Accumulation, Hyaline Droplet | Minimal            |
|   | Olfactory Epi                            | Metaplasia                    | Minimal            |
| * Pancreas  |  | Lymphoma Malignant            |                    |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 300

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 500 mg/L

DISP: Terminal Sacrifice

HISTO: 1400749

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ORGAN AND ACCOUNTABLE SITE STATUS

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|                   |                                    |                    |                  |
|-------------------|------------------------------------|--------------------|------------------|
| * Pituitary Gland | Pars Distalis                      | Hyperplasia        | Minimal          |
| * Salivary Glands |                                    | Lymphoma Malignant |                  |
| * Spleen          |                                    | Lymphoma Malignant |                  |
|                   | [ Lymphoma Malignant TGLs = 2-14 ] |                    |                  |
| * Thymus          |                                    | Lymphoma Malignant |                  |
| * Uterus          | Endometrium                        | Hyperplasia        | Cystic, Moderate |

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**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 301

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400750

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Kidney                  | * Lung                      |
| * Lymph Node, Mandibular | * Mammary Gland            | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          | * Uterus                  | Vagina                      |

**OBSERVATIONS**

|                          |                        |                              |                      |
|--------------------------|------------------------|------------------------------|----------------------|
| * Islets, Pancreatic     |                        | Hyperplasia                  | Minimal              |
| * Liver                  | Bile Duct              | Cyst                         |                      |
|                          |                        | Hepatocellular Adenoma       | Multiple             |
|                          |                        | Inflammation                 | Focal, Mild          |
|                          | Hepatocyte             | Necrosis                     | Minimal              |
| [ Hepatocellular Adenoma | TGLs = 1,2,3-13+14+5 ] |                              |                      |
| * Lymph Node, Mesenteric |                        | Inflammation                 | Chronic Active, Mild |
| * Spleen                 |                        | Extramedullary Hematopoiesis | Minimal              |
| * Stomach, Glandular     |                        | Cyst                         |                      |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 302

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400751

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Mammary Gland          | * Nose                     |
| * Ovary                   | * Pancreas                  | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|   |  |                                |                         |
|---|--|--------------------------------|-------------------------|
| * Bone Marrow                                   |  | Hypercellularity               | Minimal                 |
| * Harderian Gl                                  |  |                                |                         |
| Note: Apparent hyperplasia of palpebral tissue. |  |                                |                         |
| * Heart   | Artery   | Inflammation                   | Chronic, Minimal        |
| * Kidney  | Pelvis   | Inflammation                   | Chronic Active, Minimal |
|   |  | Nephropathy                    | Chronicprogr, Minimal   |
| * Liver   |  | Angiectasis                    | Marked                  |
|   |  | Histiocytic Sarcoma            |                         |
|   |  | Infiltration Cellular          | Mixed Cell, Minimal     |
|   | [ Angiectasis TGLs = 2-14 ]                    |                                |                         |
| * Lung  |  | Alveolar/Bronchiolar Carcinoma |                         |
|   |  | Histiocytic Sarcoma            |                         |
|   | [ Alveolar/Bronchiolar Carcinoma TGLs = 4-16 ] |                                |                         |
|   | Lymph Node                                     | Histiocytic Sarcoma            |                         |
| Note: Mediastinal node affected.                |  |                                |                         |
| * Lymph Node, Mesenteric                        |  | Hyperplasia                    | Lymphocyte, Marked      |
|   | [ Hyperplasia TGLs = 3-15 ]                    |                                |                         |
| * Thymus  |  | Histiocytic Sarcoma            |                         |
| * Uterus  | Endometrium                                    | Hyperplasia                    | Cystic, Marked          |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 302

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400751

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLs = 1-11+12+13 ]

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Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 303

TRT#: 6

SEX: Female

DAY ON TEST: 602

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400752

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Ovary                    | * Pancreas                | * Parathyroid Gland         |
| * Salivary Glands        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Trachea                 | * Urinary Bladder           |
| * Uterus                 | Vagina                     |                           |                             |

MISSING

\* Pituitary Gland

OBSERVATIONS

|                 |          |                       |                     |
|-----------------|----------|-----------------------|---------------------|
| * Liver         |          | Infiltration Cellular | Mixed Cell, Minimal |
| * Thyroid Gland | Follicle | Degeneration          | Minimal             |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 304

TRT#: 6

SEX: Female

DAY ON TEST: 598

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400753

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Kidney                  | * Lung                      | * Lymph Node, Mandibular |
| * Mammary Gland            | * Ovary                   | * Parathyroid Gland         | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | * Uterus                 |
| Vagina                     |                           |                             |                          |

AUTO PRECLUDES DIAG.

\* Spleen

INSUFFICIENT TISSUE

\* Islets, Pancreatic

OBSERVATIONS

|  |                                    |                       |                     |
|--|------------------------------------|-----------------------|---------------------|
| * Bone Marrow  |                                    | Hypercellularity      | Moderate            |
| * Liver  |                                    | Infiltration Cellular | Mixed Cell, Minimal |
| * Lymph Node, Mesenteric   |                                    | Lymphoma Malignant    |                     |
| * Nose   |                                    | Hemorrhage            | Marked              |
|  | Olfactory Epi                      | Metaplasia            | Minimal             |
| Note: Peri-dental hemorrhage noted in association with foreign plant material. |                                    |                       |                     |
| * Ovary  |                                    |                       |                     |
| Note: Only one ovary on slide.   |                                    |                       |                     |
| * Pancreas   |                                    | Lymphoma Malignant    |                     |
|  | [ Lymphoma Malignant TGLs = 1-13 ] |                       |                     |
| * Thymus   |                                    | Lymphoma Malignant    |                     |
|  | [ Lymphoma Malignant TGLs = 2-14 ] |                       |                     |

PRIMARY CAUSE OF DEATH - Thymus Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 305

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 598

**DOSE:** 1000 mg/L

**DISP:** Natural Death

**HISTO:** 1400754

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   | * Ovary                    |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

**OBSERVATIONS**

|   |             |                              |                         |
|---|-------------|------------------------------|-------------------------|
| * Bone Marrow   |             | Hypercellularity             | Minimal                 |
| * Esophagus   |             | Inflammation                 | Chronic Active, Minimal |
| * Eye   |             |                              |                         |
| Note: No optic nerve on slide.  |             |                              |                         |
| * Liver   |             | Hepatocellular Adenoma       |                         |
| Note: Marked hemorrhage associated with tumor; hemorrhage (tumor-associated) interpreted to be COD. |             |                              |                         |
| [ Hepatocellular Adenoma   TGLs = 1-13 ]  |             |                              |                         |
| * Ovary   |             |                              |                         |
| Note: Only one ovary on slide.  |             |                              |                         |
| * Spleen  |             | Extramedullary Hematopoiesis | Mild                    |
| * Uterus  | Endometrium | Hyperplasia                  | Cystic, Minimal         |

**PRIMARY CAUSE OF DEATH**      - Liver    Hepatocellular Adenoma

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 306

TRT#: 6

SEX: Female

DAY ON TEST: 629

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400755

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

INSUFFICIENT TISSUE

\* Lymph Node, Mesenteric

OBSERVATIONS

|                          |               |                       |                     |
|--------------------------|---------------|-----------------------|---------------------|
| * Brain                  |               | Necrosis              | Mild                |
| * Liver                  |               | Basophilic Focus      |                     |
|                          |               | Eosinophilic Focus    |                     |
|                          |               | Infiltration Cellular | Mixed Cell, Minimal |
| * Lymph Node, Mandibular |               | Hemorrhage            | Moderate            |
| * Nose                   | Olfactory Epi | Metaplasia            | Minimal             |
| * Spleen                 | Red Pulp      | Atrophy               | Moderate            |
|                          | White Pulp    | Atrophy               | Mild                |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Moderate    |
|                          |               | Polyp Stromal         |                     |

[ Polyp Stromal TGLs = 1-11+12 ]

PRIMARY CAUSE OF DEATH

- Brain Necrosis

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 307

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400756

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

**OBSERVATIONS**

|                     |             |   |  |
|---------------------|-------------|---|--|
| * Kidney            |             | Infiltration Cellular<br>Nephropathy                        | Mononuclear CI, Minimal<br>Chronicprogr, Minimal |
| * Liver             |             | Eosinophilic Focus<br>Infiltration Cellular<br>Inflammation | Mixed Cell, Minimal<br>Focal, Minimal            |
| * Parathyroid Gland |             | Cyst  |  |
| * Spleen            | White Pulp  | Hyperplasia   | Mild   |
| * Uterus            | Endometrium | Hyperplasia   | Cystic, Mild                                     |

[ Hyperplasia TGLs = 1-11+12 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 308

TRT#: 6

SEX: Female

DAY ON TEST: 613

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400757

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                  |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder            |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Islets, Pancreatic     |
| * Lung                    | * Lymph Node, Mandibular    | * Mammary Gland          | * Nose                   |
| * Ovary                   | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands        |
| * Skin                    | * Stomach, Forestomach      | * Thymus                 | * Thyroid Gland          |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                          |

OBSERVATIONS

|  |              |                              |                       |
|--|--------------|------------------------------|-----------------------|
| * Bone   |              | Fibro-Osseous Lesion         | Minimal               |
| * Bone Marrow  |              | Hypercellularity             | Moderate              |
| * Heart  |              |                              |                       |
| Note: Small blood cyst associated with valve.  |              |                              |                       |
| * Intestine Small, Jejunum   |              | Hemangiosarcoma              |                       |
| * Kidney   |              | Nephropathy                  | Chronicprogr, Minimal |
|  | Renal Tubule | Regeneration                 | Minimal               |
| * Liver  |              | Mixed Cell Focus             |                       |
| [ Mixed Cell Focus TGLs = 4-16 ]   |              |                              |                       |
| Lymph Node   |              | Infiltration Cellular        | Histiocyte, Marked    |
| Note: Mediastinal node; present on slides 4 and 7.   |              |                              |                       |
| * Lymph Node, Mesenteric   |              | Hemangiosarcoma              |                       |
| Note: Mostly undifferentiated sarcoma, codes as hemangiosarc due to frequent vascular channel differentiation. |              |                              |                       |
| [ Hemangiosarcoma TGLs = 3-15 ]  |              |                              |                       |
| Mesentery  |              | Hemangiosarcoma              |                       |
| * Pancreas   |              | Hemangiosarcoma              |                       |
| [ Hemangiosarcoma TGLs = 2-14 ]  |              |                              |                       |
| * Spleen   |              | Extramedullary Hematopoiesis | Mild                  |
| * Stomach, Glandular   |              | Hemangiosarcoma              |                       |
| [ Hemangiosarcoma TGLs = 1-13 ]  |              |                              |                       |
| * Uterus   |              | Infiltration Cellular        | Neutrophil, Minimal   |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 308

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 613

**DOSE:** 1000 mg/L

**DISP:** Natural Death

**HISTO:** 1400757

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH - Lymph Node, Mesenteric Hemangiosarcoma

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Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 309

TRT#: 6

SEX: Female

DAY ON TEST: 604

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400758

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|                                |  |                              |                       |
|--------------------------------|--|------------------------------|-----------------------|
| * Bone Marrow                  |  | Hypercellularity             | Marked                |
| * Kidney                       |  | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                        |  | Extramedullary Hematopoiesis | Minimal               |
| Oviduct                        |  |                              |                       |
| Note: Only one ovary on slide. |  |                              |                       |
| * Pituitary Gland              | Pars Distalis                                | Hyperplasia                  | Minimal               |
| * Skin                         |  | Fibrosarcoma                 |                       |
|                                | [ Fibrosarcoma TGLs = 1-13 ]                 |                              |                       |
| * Spleen                       |  | Extramedullary Hematopoiesis | Mild                  |
|                                | [ Extramedullary Hematopoiesis TGLs = 2-14 ] |                              |                       |
| * Thymus                       |  | Atrophy                      | Moderate              |
| * Thyroid Gland                | Follicle                                     | Degeneration                 | Mild                  |
| * Uterus                       | Endometrium                                  | Hyperplasia                  | Cystic, Marked        |
|                                | [ Hyperplasia TGLs = 3-11+12 ]               |                              |                       |

PRIMARY CAUSE OF DEATH - Skin Fibrosarcoma

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 310

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400759

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Glandular      | * Thymus                    | * Trachea                |

**MISSING**

\* Urinary Bladder

**OBSERVATIONS**

|                        |  |                                |                   |
|------------------------|--|--------------------------------|-------------------|
| * Harderian Gland      |  | Hyperplasia                    | Minimal           |
| * Liver                |  | Inflammation                   | Focal, Minimal    |
| * Lung                 |  | Alveolar/Bronchiolar Carcinoma |                   |
|                        | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-13 ]           |                                |                   |
| * Pituitary Gland      | Pars Distalis  | Hyperplasia                    | Mild              |
| * Stomach, Forestomach |  | Squamous Cell Papilloma        |                   |
|                        | [ Squamous Cell Papilloma TGLs = 2-14 ]                  |                                |                   |
| * Thyroid Gland        | Follicle   | Degeneration                   | Minimal           |
|                        | Note: Lymphoid tissue interpreted to be embedded thymus. |                                |                   |
| * Uterus               | Endometrium  | Hyperplasia                    | Cystic, Moderate  |
|                        |  | Inflammation                   | Suppurative, Mild |
| Vagina                 |  | Polyp                          |                   |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 311

TRT#: 6

SEX: Female

DAY ON TEST: 713

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400760

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                          |                           |                             |
|--------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel             | * Bone                    | * Brain                     |
| * Clitoral Gland         | * Esophagus              | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Islets, Pancreatic     | * Mammary Gland           | * Pancreas                  |
| * Parathyroid Gland      | * Salivary Glands        | * Skin                    | * Stomach, Forestomach      |
| * Trachea                | * Urinary Bladder        | Vagina                    |                             |

MISSING

\* Gallbladder

OBSERVATIONS

|                            |  |                                   |          |
|----------------------------|--|-----------------------------------|----------|
| * Adrenal Cortex           |  | Accessory Adrenal Cortical Nodule |          |
| * Bone Marrow              |  | Hypercellularity                  | Moderate |
| * Heart                    |  | Histiocytic Sarcoma               |          |
| * Intestine Small, Jejunum | Peyers Patch   | Histiocytic Sarcoma               |          |
| * Kidney                   | Renal Tubule   | Accumulation, Hyaline Droplet     | Mild     |
|                            | [ Histiocytic Sarcoma TGLs = 3-5 ]   | Histiocytic Sarcoma               |          |
| * Liver                    |  | Histiocytic Sarcoma               |          |
|                            | [ Histiocytic Sarcoma TGLs = 2,4-4+5+6+17 ]  |                                   |          |
| * Lung                     |  | Histiocytic Sarcoma               |          |
| Lymph Node                 |  | Histiocytic Sarcoma               |          |
|                            | Note: Mediastinal node affected; sinus hemorrhage contributes to color noted in TGL. |                                   |          |
|                            | [ Histiocytic Sarcoma TGLs = 5-18 ]  |                                   |          |
| * Lymph Node, Mandibular   |  | Histiocytic Sarcoma               |          |
| * Lymph Node, Mesenteric   |  | Histiocytic Sarcoma               |          |
| Mesentery                  |  | Histiocytic Sarcoma               |          |
|                            | Fat  | Necrosis                          | Marked   |
|                            | [ Necrosis TGLs = 9-16; 7-15; 8-14 ]   |                                   |          |
| * Nose                     |  | Histiocytic Sarcoma               |          |
|                            | Olfactory Epi  | Metaplasia                        | Minimal  |
| * Ovary                    |  | Histiocytic Sarcoma               |          |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 311

TRT#: 6

SEX: Female

DAY ON TEST: 713

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400760

ORGAN AND ACCOUNTABLE SITE STATUS

Note: Ovaries infiltrated with histiosarc; however TGL "masses" refer to mesenteric fat necrosis.

|                      |               |                              |         |
|----------------------|---------------|------------------------------|---------|
| * Pituitary Gland    | Pars Distalis | Hyperplasia                  | Minimal |
| * Spleen             |               | Extramedullary Hematopoiesis | Mild    |
| * Stomach, Glandular |               | Cyst                         |         |
| * Thymus             |               | Atrophy                      | Marked  |
|                      |               | Histiocytic Sarcoma          |         |
| * Thyroid Gland      | Follicle      | Degeneration                 | Minimal |
| * Uterus             | Cervix        | Histiocytic Sarcoma          |         |

[ Histiocytic Sarcoma TGLs = 6-11+12+13 ]

PRIMARY CAUSE OF DEATH - Liver Histiocytic Sarcoma

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 312

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400761

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         | Vagina                      |

OBSERVATIONS

|                   |   |                                |                 |
|-------------------|---|--------------------------------|-----------------|
| * Liver           |   | Angiectasis                    | Minimal         |
|                   |   | Eosinophilic Focus             |                 |
| * Lung            |   | Alveolar/Bronchiolar Carcinoma |                 |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ] |                                |                 |
| * Pituitary Gland | Pars Distalis                                 | Hyperplasia                    | Minimal         |
| * Thyroid Gland   | Follicle                                      | Degeneration                   | Marked          |
| * Uterus          | Endometrium                                   | Hyperplasia                    | Cystic, Minimal |



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 313

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400762

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         | * Uterus                    | Vagina                   |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|                   |               |                       |                       |
|-------------------|---------------|-----------------------|-----------------------|
| * Bone Marrow     |               | Hypercellularity      | Mild                  |
| * Kidney          |               | Nephropathy           | Chronicprogr, Minimal |
| * Liver           |               | Infiltration Cellular | Mixed Cell, Minimal   |
|                   |               | Inflammation          | Focal, Minimal        |
| * Pituitary Gland | Pars Distalis | Hyperplasia           | Minimal               |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 314

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400763

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Mammary Gland            | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

- |                          |  |                        |                       |
|--------------------------|--|------------------------|-----------------------|
| * Harderian Gland        |  | Hyperplasia            | Marked                |
| * Kidney                 |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver                  |  | Hepatocellular Adenoma |                       |
|                          |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|                          | [ Hepatocellular Adenoma TGLs = 1-13 ] |                        |                       |
| * Lymph Node, Mesenteric |  | Hyperplasia            | Lymphocyte, Mild      |
| * Nose                   |  | Inflammation           | Acute, Minimal        |
|                          | Olfactory Epi                          | Metaplasia             | Minimal               |
| * Ovary                  | Corpus Luteum                          | Hyperplasia            | Marked                |
| * Thyroid Gland          | Follicle                               | Degeneration           | Moderate              |
| * Uterus                 | Endometrium                            | Hyperplasia            | Cystic, Moderate      |
|                          | [ Hyperplasia TGLs = 2-11+12 ]         |                        |                       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 315

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400764

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Parathyroid Gland      |
| * Salivary Glands          | * Spleen                  | * Stomach, Forestomach      | * Thymus                 |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

OBSERVATIONS

|                      |   |                        |                       |
|----------------------|---|------------------------|-----------------------|
| * Bone Marrow        |   | Hypercellularity       | Moderate              |
| * Kidney             |   | Metaplasia             | Osseous               |
|                      |   | Nephropathy            | Chronicprogr, Minimal |
|                      |   | Pigment                | Minimal               |
|                      | Renal Tubule  | Regeneration           | Minimal               |
| * Liver              |   | Hepatocellular Adenoma | Multiple              |
|                      | [ Hepatocellular Adenoma TGLs = 2,3-13+15 ]   | Infiltration Cellular  | Mixed Cell, Minimal   |
| * Ovary              |   | Cyst                   |                       |
| * Pancreas           | Duct  | Cyst                   |                       |
| * Pituitary Gland    | Pars Distalis   | Adenoma                |                       |
| Skeletal Muscle      |   | Schwannoma Malignant   | Metastatic (Skin)     |
| * Skin               |   | Schwannoma Malignant   |                       |
|                      | Note: Schwannoma runs in and around skeletal muscle of the leg, around nerves, and up to perisalivary tissue. |                        |                       |
|                      | [ Schwannoma Malignant TGLs = 1-14 ]  |                        |                       |
| * Stomach, Glandular | Epithelium  | Hyperplasia            | Mild                  |
|                      | Note: Hyperplasia coded rather than "function of cut" due to hyperesoinophilia of glandular epithelium.       |                        |                       |
| * Thyroid Gland      | Follicle  | Degeneration           | Marked                |
| * Uterus             | Endometrium   | Hyperplasia            | Cystic, Minimal       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 316

TRT#: 6

SEX: Female

DAY ON TEST: 666

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400765

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | Blood Vessel               | * Bone                    | * Brain                     |
| * Clitoral Gland         | * Esophagus                | * Gallbladder             | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          | * Uterus                  | Vagina                      |

**MISSING**

|       |                   |
|-------|-------------------|
| * Eye | * Harderian Gland |
|-------|-------------------|

**OBSERVATIONS**

|                                   |   |                                   |                                     |
|-----------------------------------|---|-----------------------------------|-------------------------------------|
| * Adrenal Cortex                  |   | Accessory Adrenal Cortical Nodule |                                     |
| * Bone Marrow                     |   | Hypercellularity                  | Marked                              |
| * Clitoral GI                     |   |                                   |                                     |
| Note: Only one clitoral on slide. |   |                                   |                                     |
| * Liver                           |   | Hepatocellular Carcinoma          |                                     |
|                                   | [ Hepatocellular Carcinoma TGLs = 1-4+6 ] |                                   |                                     |
| * Lung                            |   | Osteosarcoma                      | Metastatic (Uncertain Primary Site) |
| * Nose                            | Olfactory Epi                             | Metaplasia                        | Minimal                             |
| * Spleen                          |   | Extramedullary Hematopoiesis      | Mild                                |
| * Thymus                          |   | Atrophy                           | Marked                              |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 317

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400766

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Kidney                  | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Spleen                   | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

OBSERVATIONS

|                        |                                    |                       |                     |
|------------------------|------------------------------------|-----------------------|---------------------|
| * Islets, Pancreatic   |                                    | Hyperplasia           | Minimal             |
| * Liver                |                                    | Infiltration Cellular | Mixed Cell, Minimal |
|                        |                                    | Inflammation          | Focal, Minimal      |
| * Skin                 |                                    | Melanoma Malignant    |                     |
|                        | [ Melanoma Malignant TGLs = 1-14 ] |                       |                     |
| * Stomach, Forestomach |                                    | Cyst                  |                     |
| * Uterus               | Endometrium                        | Hyperplasia           | Cystic, Minimal     |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 318

TRT#: 6

SEX: Female

DAY ON TEST: 711

DOSE: 1000 mg/L

DISP: Moribund Sacrifice

HISTO: 1400767

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Liver                   | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Glandular       | * Thymus                  | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|                        |            |                     |                       |
|------------------------|------------|---------------------|-----------------------|
| * Brain                |            | Necrosis            | Minimal               |
| * Islets, Pancreatic   |            | Adenoma             |                       |
| * Kidney               |            | Nephropathy         | Chronicprogr, Minimal |
| * Ovary                |            | Cyst                |                       |
| [ Cyst TGLs = 1-10 ]   |            |                     |                       |
| * Spleen               | Red Pulp   | Atrophy             | Moderate              |
|                        | White Pulp | Atrophy             | Mild                  |
| * Stomach, Forestomach | Epithelium | Hyperplasia         | Minimal               |
| * Thyroid Gland        | Follicle   | Degeneration        | Mild                  |
| * Uterus               | Cervix     | Histiocytic Sarcoma |                       |

PRIMARY CAUSE OF DEATH - Islets, Pancreatic Adenoma  
 CONTRIBUTORY CAUSE OF DEATH - Brain Necrosis

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 319

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400768

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lung                   | * Mammary Gland            | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          | Vagina                    |

OBSERVATIONS

|  |                                    |                              |                  |
|--|------------------------------------|------------------------------|------------------|
| * Bone   |                                    | Fibro-Osseous Lesion         | Minimal          |
|  |                                    | Increased Bone               | Mild             |
| * Bone Marrow  |                                    | Lymphoma Malignant           |                  |
| * Intestine Large, Cecum   |                                    | Pigment                      | Minimal          |
| * Liver  |                                    | Extramedullary Hematopoiesis | Mild             |
|  | Hepatocyte                         | Fatty Change                 | Focal, Minimal   |
| Lymph Node   |                                    | Lymphoma Malignant           |                  |
| Note: Mediastinal and inguinal nodes affected; inguinal node with lymphoma is TGL-1. |                                    |                              |                  |
|  | [ Lymphoma Malignant TGLs = 1-14 ] |                              |                  |
| * Lymph Node, Mandibular   |                                    | Lymphoma Malignant           |                  |
| * Lymph Node, Mesenteric   |                                    | Lymphoma Malignant           |                  |
|  | [ Lymphoma Malignant TGLs = 2-15 ] |                              |                  |
| * Ovary  |                                    |                              |                  |
| Note: Only one ovary on slide.   |                                    |                              |                  |
| * Pituitary Gland  | Pars Distalis                      | Hyperplasia                  | Minimal          |
| * Spleen   |                                    | Lymphoma Malignant           |                  |
| * Uterus   | Endometrium                        | Hyperplasia                  | Cystic, Moderate |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 320

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400769

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Brain                     | * Clitoral Gland         |
| * Esophagus                | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|  |                      |  |                       |
|--|----------------------|--|-----------------------|
| * Adrenal Cortex   |                      | Accessory Adrenal Cortical Nodule              |                       |
| * Bone   |                      | Fibro-Osseous Lesion                           | Minimal               |
| * Bone Marrow  |                      | Hypercellularity                               | Minimal               |
| * Eye  | Lens                 | Cataract                                       | Moderate              |
| * Intestine Large, Cecum   |                      | Pigment  | Minimal               |
| * Islets, Pancreatic   |                      | Hyperplasia                                    | Moderate              |
| * Kidney   |                      | Nephropathy                                    | Chronicprogr, Minimal |
| * Liver  |                      | Eosinophilic Focus                             |                       |
|  |                      | Infiltration Cellular                          | Mixed Cell, Mild      |
|  |                      | Inflammation                                   | Focal, Minimal        |
| * Lung   |                      | Alveolar/Bronchiolar Carcinoma                 |                       |
| Note: Lymphoid infiltrate plus numerous eosinophilic alveolar macrophages (and a few eosinophilic crystals) noted. |                      |  |                       |
|  |                      | [ Alveolar/Bronchiolar Carcinoma TGLs = 3-15 ] |                       |
| Lymph Node   |                      | Hemorrhage                                     | Marked                |
| Note: Apparent hematocyst of renal node presented on slide.  |                      |  |                       |
|  |                      | [ Hemorrhage TGLs = 1-13 ]                     |                       |
| * Nose   |                      | Inflammation                                   | Acute, Minimal        |
|  | Olfactory Epi        | Metaplasia                                     | Minimal               |
| * Ovary  | Follicle             | Cyst   |                       |
|  | [ Cyst TGLs = 2-14 ] |  |                       |
| * Pituitary Gland  | Pars Distalis        | Hyperplasia                                    | Marked                |
| * Spleen   | White Pulp           | Hyperplasia                                    | Mild                  |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 320

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400769

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

Follicle

Degeneration

Minimal

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

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Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 321

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400770

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                           |                             |                          |
|--------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                  | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder            | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Islets, Pancreatic     |
| * Lung                   | * Lymph Node, Mandibular  | * Mammary Gland             | * Nose                   |
| * Pancreas               | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach   | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder        | Vagina                    |                             |                          |

OBSERVATIONS

|                            |                                    |                              |                       |
|----------------------------|------------------------------------|------------------------------|-----------------------|
| * Bone Marrow              |                                    | Hypercellularity             | Minimal               |
| * Intestine Small, Ileum   |                                    | Lymphoma Malignant           |                       |
| * Intestine Small, Jejunum |                                    | Lymphoma Malignant           |                       |
| * Kidney                   |                                    | Nephropathy                  | Chronicprogr, Minimal |
| * Liver                    |                                    | Basophilic Focus             |                       |
|                            |                                    | Extramedullary Hematopoiesis | Minimal               |
|                            |                                    | Infiltration Cellular        | Mixed Cell, Minimal   |
|                            |                                    | Inflammation                 | Focal, Minimal        |
|                            |                                    | Mixed Cell Focus             |                       |
|                            | [ Mixed Cell Focus TGLs = 1-13 ]   |                              |                       |
| * Lymph Node, Mesenteric   |                                    | Lymphoma Malignant           |                       |
|                            | [ Lymphoma Malignant TGLs = 4-15 ] |                              |                       |
| * Ovary                    |                                    | Cyst                         |                       |
|                            | [ Cyst TGLs = 3-10 ]               |                              |                       |
| * Pituitary Gland          | Pars Distalis                      | Hyperplasia                  | Mild                  |
| * Spleen                   | White Pulp                         | Hyperplasia                  | Mild                  |
| * Thyroid Gland            | Follicle                           | Degeneration                 | Marked                |
| * Uterus                   | Endometrium                        | Hyperplasia                  | Cystic, Marked        |
|                            |                                    | Infiltration Cellular        | Neutrophil, Minimal   |
|                            | [ Hyperplasia TGLs = 2-11+12+14 ]  |                              |                       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 322

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400771

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

**OBSERVATIONS**

- |                   |                                |                       |                       |
|-------------------|--------------------------------|-----------------------|-----------------------|
| * Kidney          |                                | Nephropathy           | Chronicprogr, Minimal |
| * Liver           |                                | Eosinophilic Focus    |                       |
|                   |                                | Fatty Change          | Diffuse, Minimal      |
|                   |                                | Infiltration Cellular | Mixed Cell, Minimal   |
| * Pituitary Gland | Pars Distalis                  | Adenoma               |                       |
| * Uterus          | Endometrium                    | Hyperplasia           | Cystic, Marked        |
|                   |                                | Infiltration Cellular | Neutrophil, Minimal   |
|                   | [ Hyperplasia TGLs = 1-11+12 ] |                       |                       |
| Vagina            |                                | Inflammation          | Acute, Mild           |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 323

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400772

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|                   |   |                        |                       |
|-------------------|---|------------------------|-----------------------|
| * Bone Marrow     |   | Hypercellularity       | Mild                  |
| * Kidney          |   | Infarct                | Mild                  |
|                   |   | Nephropathy            | Chronicprogr, Minimal |
| * Liver           |   | Hepatocellular Adenoma | Multiple              |
|                   |   | Infiltration Cellular  | Mixed Cell, Minimal   |
|                   | [ Hepatocellular Adenoma TGLs = 1,2-13+14 ] |                        |                       |
| * Pituitary Gland | Pars Distalis                               | Adenoma                |                       |
| * Uterus          | Endometrium                                 | Hyperplasia            | Cystic, Marked        |
|                   |   | Infiltration Cellular  | Mixed Cell, Minimal   |
|                   | [ Hyperplasia TGLs = 3-11+12+15 ]           |                        |                       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 324

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400773

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Mammary Gland            | * Nose                    | * Pancreas                  | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                          |                                   |                              |                       |
|--------------------------|-----------------------------------|------------------------------|-----------------------|
| * Bone Marrow            |                                   | Hemangiosarcoma              |                       |
| * Kidney                 |                                   | Nephropathy                  | Chronicprogr, Minimal |
|                          |                                   | Pigment                      | Minimal               |
|                          | Renal Tubule                      | Regeneration                 | Minimal               |
| * Liver                  |                                   | Angiectasis                  | Minimal               |
|                          |                                   | Basophilic Focus             |                       |
|                          |                                   | Eosinophilic Focus           |                       |
|                          | [ Eosinophilic Focus TGLs = 1-5 ] |                              |                       |
| * Lymph Node, Mesenteric |                                   | Extramedullary Hematopoiesis | Mild                  |
| Mesentery                | Fat                               | Necrosis                     | Marked                |
|                          | [ Necrosis TGLs = 2-13 ]          |                              |                       |
| * Ovary                  |                                   | Cystadenoma                  |                       |
| * Thyroid Gland          |                                   | Angiectasis                  | Mild                  |
| * Uterus                 |                                   | Hemangiosarcoma              |                       |
|                          | Endometrium                       | Hyperplasia                  | Cystic, Moderate      |

Note: Coded hemangiosarc due to large expanse, some cellular component; large thrombus and apparent metastasis to bone marrow.

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 325

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400774

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Pancreas                | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

OBSERVATIONS

|                          |                |                  |                       |
|--------------------------|----------------|------------------|-----------------------|
| * Intestine Large, Cecum |                | Pigment          | Minimal               |
| * Kidney                 |                | Infarct          | Minimal               |
|                          | Renal Tubule   | Necrosis         | Minimal               |
|                          |                | Nephropathy      | Chronicprogr, Minimal |
| * Liver                  |                | Basophilic Focus |                       |
| * Lung                   | Alveolar Epith | Hyperplasia      | Minimal               |
| * Nose                   | Olfactory Epi  | Metaplasia       | Minimal               |
| * Ovary                  | Follicle       | Cyst             |                       |
| * Parathyroid Gland      |                | Cyst             |                       |
| * Pituitary Gland        | Pars Distalis  | Adenoma          |                       |
|                          | Pars Distalis  | Hyperplasia      | Minimal               |
| * Uterus                 | Endometrium    | Hyperplasia      | Cystic, Mild          |
| Vagina                   |                | Inflammation     | Acute, Minimal        |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 326

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400775

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Thymus                  | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

**OBSERVATIONS**

|                          |  |                          |                       |
|--------------------------|--|--------------------------|-----------------------|
| * Intestine Large, Cecum |  | Pigment                  | Minimal               |
| * Kidney                 |  | Infarct                  | Minimal               |
|                          |  | Nephropathy              | Chronicprogr, Minimal |
| * Liver                  |  | Hepatocellular Carcinoma |                       |
|                          |  | Infiltration Cellular    | Mixed Cell, Minimal   |
|                          | [ Hepatocellular Carcinoma TGLs = 1-13 ] |                          |                       |
| Mesentery                | Fat                                      | Necrosis                 | Marked                |
|                          | [ Necrosis TGLs = 3-15 ]                 |                          |                       |
| * Nose                   | Olfactory Epi                            | Metaplasia               | Minimal               |
| * Spleen                 | White Pulp                               | Hyperplasia              | Mild                  |
| * Stomach, Glandular     |  | Cyst                     |                       |
| * Thyroid Gland          | Follicle                                 | Degeneration             | Minimal               |
| * Uterus                 | Endometrium                              | Hyperplasia              | Cystic, Mild          |
|                          |  | Leiomyosarcoma           |                       |
|                          | [ Leiomyosarcoma TGLs = 2-14 ]           |                          |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 327

TRT#: 6

SEX: Female

DAY ON TEST: 245

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400776

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone Marrow             |
| * Brain                     | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Liver                     | * Lung                   | * Mammary Gland            | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        | * Uterus                   | Vagina                    |

MISSING

\* Lymph Node, Mandibular      \* Pituitary Gland

INSUFFICIENT TISSUE

\* Clitoral Gland

OBSERVATIONS

|   |            |                      |                 |
|---|------------|----------------------|-----------------|
| * Bone  |            | Fibro-Osseous Lesion | Minimal         |
| * Heart   | Atrium     | Thrombus             |                 |
| Note: Thrombus interpreted to be peracute, at or near death. Moribund condition and death attributed to glomerular disease. |            |                      |                 |
| * Kidney  |            | Glomerulopathy       | Hyaline, Marked |
| * Lymph Node, Mesenteric  |            | Atrophy              | Marked          |
| * Spleen  | Red Pulp   | Atrophy              | Marked          |
|   | White Pulp | Atrophy              | Marked          |
| * Thymus  |            | Atrophy              | Marked          |

PRIMARY CAUSE OF DEATH      - Kidney      Glomerulopathy



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 328

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400777

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Mammary Gland            | * Nose                    | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

- |                          |             |                       |                       |
|--------------------------|-------------|-----------------------|-----------------------|
| * Bone Marrow            |             | Hypercellularity      | Mild                  |
| * Kidney                 |             | Lymphoma Malignant    |                       |
|                          |             | Nephropathy           | Chronicprogr, Minimal |
| * Liver                  |             | Lymphoma Malignant    |                       |
| * Lymph Node, Mesenteric |             | Lymphoma Malignant    |                       |
| * Spleen                 |             | Lymphoma Malignant    |                       |
| * Thyroid Gland          | Follicle    | Degeneration          | Minimal               |
| * Uterus                 | Endometrium | Hyperplasia           | Cystic, Marked        |
|                          |             | Infiltration Cellular | Neutrophil, Minimal   |

[ Hyperplasia TGLs = 1-11+12+14 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 329

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400778

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Brain                  |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder            |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Islets, Pancreatic     |
| * Lung                    | * Lymph Node, Mandibular    | * Mammary Gland          | * Ovary                  |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands        |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Trachea                |
| * Urinary Bladder         | Vagina                      |                          |                          |

OBSERVATIONS

|                            |  |                              |                       |
|----------------------------|--|------------------------------|-----------------------|
| * Bone                     |  | Fibro-Osseous Lesion         | Minimal               |
| * Bone Marrow              |  | Hypercellularity             | Marked                |
| * Intestine Small, Jejunum |  | Lymphoma Malignant           |                       |
|                            | [ Lymphoma Malignant TGLs = 7-19 ]                 |                              |                       |
| * Kidney                   |  | Nephropathy                  | Chronicprogr, Minimal |
|                            | Renal Tubule                                       | Regeneration                 | Mild                  |
| * Liver                    |  | Hepatocellular Adenoma       | Multiple              |
|                            |  | Hepatocellular Carcinoma     | Multiple              |
|                            |  | Infiltration Cellular        | Mixed Cell, Minimal   |
|                            |  | Inflammation                 | Focal, Minimal        |
|                            | [ Hepatocellular Adenoma TGLs = 5,6-17+18 ]        |                              |                       |
|                            | [ Hepatocellular Carcinoma TGLs = 2,3,4-13+15+16 ] |                              |                       |
| * Lymph Node, Mesenteric   |  | Lymphoma Malignant           |                       |
| Mesentery                  |  | Inflammation                 | Granulomatous, Marked |
|                            | Fat  | Necrosis                     | Marked                |
|                            | [ Inflammation TGLs = 8-20 ]                       |                              |                       |
|                            | [ Necrosis TGLs = 8-20 ]                           |                              |                       |
| * Nose                     |  | Metaplasia                   | Minimal               |
| * Skin                     |  | Schwannoma Malignant         |                       |
|                            | [ Schwannoma Malignant TGLs = 1-14 ]               |                              |                       |
| * Spleen                   |  | Extramedullary Hematopoiesis | Mild                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

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ANIMAL ID: 329

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400778

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ORGAN AND ACCOUNTABLE SITE STATUS

---

\* Thyroid Gland

Follicle

Degeneration

Minimal

\* Uterus

Endometrium

Fibrosis

Mild

Hyperplasia

Cystic, Mild

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 330

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400779

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| Blood Vessel                | * Bone                   | * Brain                    | * Clitoral Gland          |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Mammary Gland            | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Trachea                   | * Urinary Bladder        | Vagina                     |                           |

OBSERVATIONS

|                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Adrenal Cortex         |  | Hypertrophy                  | Minimal               |
| * Adrenal Medulla        |  | Hyperplasia                  | Marked                |
| * Bone Marrow            |  | Hypercellularity             | Minimal               |
| * Kidney                 |  | Inflammation                 | Chronic, Minimal      |
|                          |  | Nephropathy                  | Chronicprogr, Minimal |
|                          | Renal Tubule                           | Regeneration                 | Minimal               |
| * Liver                  |  | Hepatocellular Adenoma       |                       |
|                          |  | Infiltration Cellular        | Mixed Cell, Minimal   |
|                          |  | Inflammation                 | Focal, Minimal        |
|                          | [ Hepatocellular Adenoma TGLs = 1-13 ] |                              |                       |
| * Lymph Node, Mesenteric |  | Hyperplasia                  | Lymphocyte, Moderate  |
|                          | [ Hyperplasia TGLs = 2-6 ]             |                              |                       |
| * Ovary                  |  | Cystadenoma                  |                       |
| * Spleen                 |  | Extramedullary Hematopoiesis | Minimal               |
| * Thyroid Gland          | Follicle                               | Degeneration                 | Minimal               |
| Tooth                    |  | Dental Dysplasia             | Minimal               |
| * Uterus                 | Endometrium                            | Hyperplasia                  | Cystic, Minimal       |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 331

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400780

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Thymus                    | * Trachea                |
| * Urinary Bladder          | * Uterus                  | Vagina                      |                          |

**MISSING**

\* Gallbladder

**OBSERVATIONS**

|                          |              |              |                       |
|--------------------------|--------------|--------------|-----------------------|
| * Kidney                 |              | Nephropathy  | Chronicprogr, Minimal |
|                          |              | Pigment      | Minimal               |
|                          | Renal Tubule | Regeneration | Minimal               |
| * Liver                  |              | Inflammation | Focal, Minimal        |
| Mesentery                | Fat          | Necrosis     | Marked                |
| [ Necrosis TGLs = 1-13 ] |              |              |                       |
| * Ovary                  |              | Cystadenoma  |                       |
| * Stomach, Glandular     |              | Cyst         |                       |
| * Thyroid Gland          | Follicle     | Degeneration | Minimal               |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 332

TRT#: 6

SEX: Female

DAY ON TEST: 700

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400781

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Clitoral Gland           | * Esophagus               | * Gallbladder               | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             | * Pituitary Gland        |
| * Skin                     |                           |                             |                          |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                                    |                    |
|------------------------------------|--------------------|
| * Bone Marrow                      | Lymphoma Malignant |
| * Brain                            | Lymphoma Malignant |
| * Eye                              | Lymphoma Malignant |
| * Harderian Gland                  | Lymphoma Malignant |
| * Heart                            | Lymphoma Malignant |
| Note: Animal is leukemic.          |                    |
| * Kidney                           | Lymphoma Malignant |
| * Liver                            | Lymphoma Malignant |
| * Lung                             | Lymphoma Malignant |
| Lymph Node                         | Lymphoma Malignant |
| Note: TGL is lumbar node.          |                    |
| [ Lymphoma Malignant TGLs = 3-14 ] |                    |
| * Lymph Node, Mandibular           | Lymphoma Malignant |
| * Lymph Node, Mesenteric           | Lymphoma Malignant |
| Mesentery                          | Lymphoma Malignant |
| * Nose                             | Lymphoma Malignant |
| * Ovary                            | Lymphoma Malignant |
| * Pancreas                         | Lymphoma Malignant |
| * Salivary Glands                  | Lymphoma Malignant |
| * Spleen                           | Lymphoma Malignant |
| [ Lymphoma Malignant TGLs = 1-13 ] |                    |
| * Stomach, Forestomach             | Lymphoma Malignant |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 332

TRT#: 6

SEX: Female

DAY ON TEST: 700

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400781

ORGAN AND ACCOUNTABLE SITE STATUS

|                      |                                       |                    |              |
|----------------------|---------------------------------------|--------------------|--------------|
| * Stomach, Glandular |                                       | Lymphoma Malignant |              |
| * Thymus             |                                       | Lymphoma Malignant |              |
| * Thyroid Gland      |                                       | Lymphoma Malignant |              |
| * Trachea            |                                       | Lymphoma Malignant |              |
| * Urinary Bladder    |                                       | Lymphoma Malignant |              |
| * Uterus             | Endometrium                           | Hyperplasia        | Cystic, Mild |
|                      |                                       | Lymphoma Malignant |              |
|                      | [ Lymphoma Malignant TGLs = 2-11+12 ] |                    |              |
| Vagina               |                                       | Lymphoma Malignant |              |

PRIMARY CAUSE OF DEATH - Bone Marrow Lymphoma Malignant

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 333

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400782

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|           |                                |                       |                     |
|-----------|--------------------------------|-----------------------|---------------------|
| * Bone    |                                | Fibro-Osseous Lesion  | Minimal             |
| * Liver   |                                | Angiectasis           | Minimal             |
|           |                                | Eosinophilic Focus    |                     |
|           |                                | Infiltration Cellular | Mixed Cell, Minimal |
|           |                                | Inflammation          | Focal, Minimal      |
| * Lung    | Alveolar Epith                 | Hyperplasia           | Mild                |
| Mesentery | Fat                            | Necrosis              | Moderate            |
|           | [ Necrosis TGLs = 2-14 ]       |                       |                     |
| * Nose    | Olfactory Epi                  | Metaplasia            | Minimal             |
| * Uterus  | Endometrium                    | Hyperplasia           | Cystic, Mild        |
|           | [ Hyperplasia TGLs = 1-11+12 ] |                       |                     |



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 334

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400783

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

OBSERVATIONS

|                        |               |                  |                 |
|------------------------|---------------|------------------|-----------------|
| * Liver                |               | Inflammation     | Focal, Minimal  |
| * Nose                 | Olfactory Epi | Metaplasia       | Minimal         |
| Oral Mucosa            | Gingival      | Foreign Body     |                 |
|                        | Gingival      | Inflammation     | Chronic, Marked |
| * Ovary                |               | Cyst             |                 |
| [ Cyst TGLs = 1,2-10 ] |               |                  |                 |
| Tooth                  |               | Dental Dysplasia | Moderate        |
| * Uterus               | Endometrium   | Hyperplasia      | Cystic, Minimal |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 335

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400784

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Ovary                    | * Pancreas                | * Parathyroid Gland         |
| * Salivary Glands        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

OBSERVATIONS

|                          |                 |                        |                     |
|--------------------------|-----------------|------------------------|---------------------|
| * Liver                  |                 | Eosinophilic Focus     |                     |
|                          |                 | Hepatocellular Adenoma | Multiple            |
|                          |                 | Infiltration Cellular  | Mixed Cell, Minimal |
|                          |                 | Inflammation           | Focal, Minimal      |
| [ Hepatocellular Adenoma | TGLs = 1,2-13 ] |                        |                     |
| * Pituitary Gland        | Pars Distalis   | Hyperplasia            | Minimal             |
| * Stomach, Glandular     |                 | Cyst                   |                     |
| * Uterus                 | Endometrium     | Hyperplasia            | Cystic, Mild        |



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 337

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400786

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

OBSERVATIONS

|               |                  |                              |                     |
|---------------|------------------|------------------------------|---------------------|
| * Liver       |                  | Eosinophilic Focus           |                     |
|               |                  | Infiltration Cellular        | Mixed Cell, Minimal |
|               |                  | Inflammation                 | Focal, Minimal      |
| * Ovary       |                  | Cystadenoma                  |                     |
| * Spleen      |                  | Extramedullary Hematopoiesis | Minimal             |
| * Uterus      |                  | Angiectasis                  | Moderate            |
|               |                  | Hemorrhage                   | Mild                |
|               | Endometrium      | Hyperplasia                  | Cystic, Marked      |
| [ Hyperplasia | TGLs = 1-11+12 ] |                              |                     |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 338

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400787

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                          |                           |                             |
|--------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla        | Blood Vessel              | * Bone Marrow               |
| * Brain                  | * Clitoral Gland         | * Esophagus               | * Gallbladder               |
| * Heart                  | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Islets, Pancreatic     | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    |
| * Mammary Gland          | * Nose                   | * Ovary                   | * Pancreas                  |
| * Parathyroid Gland      | * Salivary Glands        | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular     | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder        | Vagina                    |                             |

**OBSERVATIONS**

- |                            |  |                                |                         |
|----------------------------|--|--------------------------------|-------------------------|
| * Bone                     |  | Fibro-Osseous Lesion           | Minimal                 |
| * Eye                      | Retina   | Dysplasia                      | Minimal                 |
|                            | [ Phthisis Bulbi TGLs = 2-8 ]                  | Phthisis Bulbi                 |                         |
| * Harderian Gland          |  | Adenoma                        |                         |
|                            | [ Adenoma TGLs = 3-8 ]                         |                                |                         |
| * Intestine Large, Cecum   |  | Pigment                        | Minimal                 |
| * Intestine Small, Jejunum | Peyers Patch                                   | Inflammation                   | Granulomatous, Moderate |
| * Kidney                   |  | Nephropathy                    | Chronicprogr, Minimal   |
|                            |  | Pigment                        | Minimal                 |
| * Liver                    |  | Inflammation                   | Focal, Minimal          |
| * Lung                     |  | Alveolar/Bronchiolar Carcinoma |                         |
|                            | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-13 ] |                                |                         |
| * Pituitary Gland          | Pars Distalis                                  | Adenoma                        |                         |
|                            | [ Adenoma TGLs = 4-7 ]                         |                                |                         |
| * Uterus                   | Endometrium                                    | Hyperplasia                    | Cystic, Minimal         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 339

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400788

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

**OBSERVATIONS**

- |          |  |                        |                       |
|----------|--|------------------------|-----------------------|
| * Kidney |  | Infarct                | Minimal               |
|          |  | Nephropathy            | Chronicprogr, Minimal |
|          | Note: Heterotopic bone present.          |                        |                       |
| * Liver  |  | Clear Cell Focus       |                       |
|          |  | Eosinophilic Focus     |                       |
|          |  | Hepatocellular Adenoma | Multiple              |
|          |  | Inflammation           | Focal, Minimal        |
|          | [ Eosinophilic Focus TGLs = 3-14 ]       |                        |                       |
|          | [ Hepatocellular Adenoma TGLs = 1,2-13 ] |                        |                       |
| * Spleen | White Pulp                               | Hyperplasia            | Minimal               |
| * Uterus | Endometrium                              | Hyperplasia            | Cystic, Minimal       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 340

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400789

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|                                    |               |   |                                       |
|------------------------------------|---------------|---|---------------------------------------|
| * Bone Marrow                      |               | Hypercellularity                            | Minimal                               |
| * Liver                            |               | Eosinophilic Focus<br>Infiltration Cellular | Mixed Cell, Minimal                   |
| [ Eosinophilic Focus TGLs = 3-15 ] |               |   |                                       |
| Mesentery                          | Fat           | Necrosis                                    | Marked                                |
| [ Necrosis TGLs = 1-13 ]           |               |   |                                       |
| * Pituitary Gland                  | Pars Distalis | Hyperplasia                                 | Minimal                               |
| * Uterus                           | Endometrium   | Hyperplasia<br>Infiltration Cellular        | Cystic, Marked<br>Neutrophil, Minimal |
| [ Hyperplasia TGLs = 2-11+12+14 ]  |               |   |                                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 341

TRT#: 6

SEX: Female

DAY ON TEST: 720

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400790

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                          |                          |                             |
|--------------------------|--------------------------|--------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla        | * Bone                   | * Clitoral Gland            |
| * Gallbladder            | * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Islets, Pancreatic     | * Mammary Gland          | * Pituitary Gland           |
| * Stomach, Glandular     |                          |                          |                             |

MISSING

|                          |                     |                   |                            |
|--------------------------|---------------------|-------------------|----------------------------|
| Blood Vessel             | * Eye               | * Harderian Gland | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular | * Parathyroid Gland | * Salivary Glands | * Thyroid Gland            |
| * Trachea                |                     |                   |                            |

OBSERVATIONS

|  |                    |
|--|--------------------|
| * Bone Marrow                                | Lymphoma Malignant |
| * Brain                                      | Lymphoma Malignant |
| * Esophagus                                  | Lymphoma Malignant |
| * Heart                                      | Lymphoma Malignant |
| Note: Animal was leukemic.                   |                    |
| * Intestine Large, Rectum                    | Lymphoma Malignant |
| * Kidney                                     | Lymphoma Malignant |
| * Liver                                      | Lymphoma Malignant |
| * Lung                                       | Lymphoma Malignant |
| Lymph Node                                   | Lymphoma Malignant |
| Note: Renal, mediastinal and lumbar nodes.   |                    |
| [ Lymphoma Malignant TGLs = 2,3,4-14+15+16 ] |                    |
| * Lymph Node, Mesenteric                     | Lymphoma Malignant |
| [ Lymphoma Malignant TGLs = 5-17 ]           |                    |
| Mesentery                                    | Lymphoma Malignant |
| * Nose                                       | Lymphoma Malignant |
| * Ovary                                      | Lymphoma Malignant |
| * Pancreas                                   | Lymphoma Malignant |
| * Skin                                       | Lymphoma Malignant |
| * Spleen                                     | Lymphoma Malignant |
| [ Lymphoma Malignant TGLs = 1-13 ]           |                    |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 341

TRT#: 6

SEX: Female

DAY ON TEST: 720

DOSE: 1000 mg/L

DISP: Natural Death

HISTO: 1400790

ORGAN AND ACCOUNTABLE SITE STATUS

|                        |                    |
|------------------------|--------------------|
| * Stomach, Forestomach | Lymphoma Malignant |
| * Thymus               | Lymphoma Malignant |
| * Urinary Bladder      | Lymphoma Malignant |
| * Uterus               | Lymphoma Malignant |
| Vagina                 | Lymphoma Malignant |

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 342

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400791

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Brain                  | * Clitoral Gland           | * Esophagus               | * Eye                       |
| * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  |
| * Parathyroid Gland      | * Salivary Glands          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Thymus                   | * Trachea                 | * Urinary Bladder           |
| * Uterus                 | Vagina                     |                           |                             |

**MISSING**

\* Gallbladder

**INSUFFICIENT TISSUE**

\* Bone Marrow

**OBSERVATIONS**

|                                 |               |                       |                       |
|---------------------------------|---------------|-----------------------|-----------------------|
| * Harderian Gland               |               | Hyperplasia           | Minimal               |
| * Intestine Large, Cecum        |               | Pigment               | Minimal               |
| * Kidney                        |               | Nephropathy           | Chronicprogr, Minimal |
| * Liver                         |               | Basophilic Focus      |                       |
|                                 |               | Eosinophilic Focus    |                       |
|                                 |               | Inflammation          | Focal, Minimal        |
| Note: Baso also on slide 4.     |               |                       |                       |
| [ Basophilic Focus TGLs = 1-6 ] |               |                       |                       |
| * Nose                          | Olfactory Epi | Metaplasia            | Minimal               |
| * Ovary                         |               | Tubulostromal Adenoma |                       |
| * Pituitary Gland               | Pars Distalis | Hyperplasia           | Minimal               |
| * Stomach, Glandular            |               | Cyst                  |                       |
| * Thyroid Gland                 | Follicle      | Degeneration          | Mild                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 343

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400792

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

**OBSERVATIONS**

|               |  |                              |                       |
|---------------|--|------------------------------|-----------------------|
| * Bone Marrow |  | Hypercellularity             | Mild                  |
| * Kidney      |  | Infarct                      | Minimal               |
|               |  | Nephropathy                  | Chronicprogr, Minimal |
| * Liver       |  | Hepatocellular Carcinoma     |                       |
|               |  | Infiltration Cellular        | Mixed Cell, Minimal   |
|               | [ Hepatocellular Carcinoma TGLs = 1-13 ] |                              |                       |
| * Lung        |  | Hepatocellular Carcinoma     | Metastatic (Liver)    |
| * Nose        | Olfactory Epi                            | Metaplasia                   | Minimal               |
| * Spleen      |  | Extramedullary Hematopoiesis | Mild                  |
| * Uterus      | Endometrium                              | Hyperplasia                  | Cystic, Minimal       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 344

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400793

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                   |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                    |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Islets, Pancreatic     |
| * Lung                    | * Lymph Node, Mandibular    | * Mammary Gland          | * Pancreas               |
| * Pituitary Gland         | * Salivary Glands           | * Skin                   | * Stomach, Forestomach   |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                |
| * Urinary Bladder         | * Uterus                    | Vagina                   |                          |

OBSERVATIONS

|   |               |                              |                     |
|---|---------------|------------------------------|---------------------|
| * Bone Marrow   |               | Hypercellularity             | Minimal             |
| * Intestine Large, Cecum  |               | Pigment                      | Minimal             |
| * Intestine Small, Jejunum  |               | Lymphoma Malignant           |                     |
| Note: Lymphoma chosen rather than hyperplasia due to size; a few mix inflam cells also present.   |               |                              |                     |
| Note: Slide 13 depicts morphologic intussusception, but without congested vasculature or inflammation. This feature not identified at necropsy. |               |                              |                     |
| [ Lymphoma Malignant TGLs = 1-13 ]  |               |                              |                     |
| * Kidney  |               | Pigment                      | Minimal             |
|   | Renal Tubule  | Regeneration                 | Minimal             |
| * Liver   |               | Eosinophilic Focus           |                     |
|   |               | Infiltration Cellular        | Mixed Cell, Minimal |
|   |               | Inflammation                 | Focal, Minimal      |
|   |               | Lymphoma Malignant           |                     |
| * Lymph Node, Mesenteric  |               | Lymphoma Malignant           |                     |
| * Nose  | Olfactory Epi | Metaplasia                   | Minimal             |
| * Ovary   | Follicle      | Cyst                         |                     |
| * Parathyroid Gland   |               | Cyst                         |                     |
| * Spleen  |               | Extramedullary Hematopoiesis | Minimal             |
|   |               | Lymphoma Malignant           |                     |

Note: Lymphoma chosen rather than hyperplasia due to massive Peyer's patch in jejunum interpreted to be lymphoma as well.

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 345

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400794

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Parathyroid Gland      | * Salivary Glands          | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | Vagina                     |                           |                             |

OBSERVATIONS

- |   |               |                       |                       |
|---|---------------|-----------------------|-----------------------|
| * Clitoral Gl                                       |               |                       |                       |
| Note: Only one full clitoral.                       |               |                       |                       |
| * Kidney  |               | Nephropathy           | Chronicprogr, Minimal |
| * Liver   |               | Eosinophilic Focus    |                       |
|   |               | Infiltration Cellular | Mixed Cell, Minimal   |
| Mesentery   | Fat           | Necrosis              | Moderate              |
| [ Necrosis TGLs = 2-15 ]                            |               |                       |                       |
| * Ovary   | Follicle      | Cyst                  |                       |
| * Pancreas  | Duct          | Cyst                  |                       |
| * Pituitary Gland                                   |               | Cyst                  |                       |
|   | Pars Distalis | Hyperplasia           | Mild                  |
| * Skin  | Sweat Gland   | Hyperplasia           | Marked                |
| Note: Appears to be apocrine sweat gland in origin. |               |                       |                       |
| * Uterus  | Endometrium   | Hyperplasia           | Cystic, Marked        |
|   |               | Polyp Stromal         |                       |
| [ Hyperplasia TGLs = 1-11+12+14 ]                   |               |                       |                       |
| [ Polyp Stromal TGLs = 1-12+14 ]                    |               |                       |                       |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 346

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400795

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Kidney                  | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         | Vagina                      |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|                      |  |                        |                     |
|----------------------|--|------------------------|---------------------|
| * Islets, Pancreatic |  | Hyperplasia            | Minimal             |
| * Liver              |  | Hepatocellular Adenoma |                     |
|                      |  | Infiltration Cellular  | Mixed Cell, Minimal |
|                      | [ Hepatocellular Adenoma TGLs = 1-13 ] |                        |                     |
|                      | Mesentery                              | Fat                    | Mild                |
| * Thyroid Gland      |  | Follicle               | Minimal             |
| * Uterus             |  | Endometrium            | Cystic, Minimal     |
|                      |  | Necrosis               |                     |
|                      |  | Degeneration           |                     |
|                      |  | Hyperplasia            |                     |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 347

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400796

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Pancreas               |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | Vagina                   |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|                   |               |                              |                  |
|-------------------|---------------|------------------------------|------------------|
| * Adrenal Cortex  |               | Angiectasis                  | Marked           |
| * Kidney          | Renal Tubule  | Degeneration                 | Minimal          |
| * Liver           |               | Inflammation                 | Focal, Minimal   |
| * Ovary           |               | Cyst                         |                  |
| * Pituitary Gland | Pars Distalis | Hyperplasia                  | Minimal          |
| * Spleen          |               | Extramedullary Hematopoiesis | Minimal          |
| * Thyroid Gland   | Follicle      | Degeneration                 | Mild             |
| * Uterus          | Endometrium   | Hyperplasia                  | Cystic, Moderate |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 348

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400797

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   | * Ovary                    |
| * Pancreas                | * Parathyroid Gland         | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Urinary Bladder         | Vagina                      |                          |                            |

**MISSING**

|                   |           |
|-------------------|-----------|
| * Pituitary Gland | * Trachea |
|-------------------|-----------|

**OBSERVATIONS**

|                 |   |                        |                         |
|-----------------|---|------------------------|-------------------------|
| * Bone          |   | Fibro-Osseous Lesion   | Minimal                 |
| * Esophagus     |   | Inflammation           | Chronic Active, Minimal |
| * Liver         |   | Eosinophilic Focus     |                         |
|                 |   | Hepatocellular Adenoma | Multiple                |
|                 |   | Infiltration Cellular  | Mixed Cell, Minimal     |
|                 | [ Eosinophilic Focus TGLs = 3-15 ]          |                        |                         |
|                 | [ Hepatocellular Adenoma TGLs = 1,2-13+14 ] |                        |                         |
| * Thyroid Gland | Follicle                                    | Degeneration           | Minimal                 |
| * Uterus        | Endometrium                                 | Hyperplasia            | Cystic, Moderate        |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 349

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400798

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Nose                    | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

OBSERVATIONS

|  |                |                           |                     |
|--|----------------|---------------------------|---------------------|
| * Adren Cortex                                       |                |                           |                     |
| Note: Marked bilateral X zone vacuolization present. |                |                           |                     |
| * Brain  |                | Cyst Epithelial Inclusion |                     |
| * Kidney   |                | Nephropathy               | Chronicprogr, Mild  |
|  |                | Pigment                   | Minimal             |
| * Liver  |                | Infiltration Cellular     | Mixed Cell, Minimal |
| * Lung   | Alveolar Epith | Hyperplasia               | Minimal             |
| * Pituitary Gland                                    | Pars Distalis  | Hyperplasia               | Marked              |
| * Uterus   | Endometrium    | Hyperplasia               | Cystic, Mild        |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 350

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400799

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

**OBSERVATIONS**

|                   |                             |              |                 |
|-------------------|-----------------------------|--------------|-----------------|
| * Liver           |                             | Inflammation | Focal, Minimal  |
| * Nose            | Olfactory Epi               | Metaplasia   | Minimal         |
| * Ovary           |                             | Cystadenoma  |                 |
|                   | [ Cystadenoma TGLs = 1-10 ] |              |                 |
| * Pituitary Gland | Pars Distalis               | Hyperplasia  | Minimal         |
| * Uterus          | Endometrium                 | Hyperplasia  | Cystic, Minimal |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 351

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400800

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Nose                      | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Salivary Glands           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                            |

INSUFFICIENT TISSUE

\* Bone Marrow

OBSERVATIONS

|                          |               |                       |                       |
|--------------------------|---------------|-----------------------|-----------------------|
| * Intestine Large, Cecum |               | Pigment               | Minimal               |
| * Kidney                 |               | Nephropathy           | Chronicprogr, Minimal |
| * Liver                  |               | Infiltration Cellular | Mixed Cell, Minimal   |
|                          |               | Inflammation          | Focal, Minimal        |
|                          | Hepatocyte    | Necrosis              | Minimal               |
| * Pituitary Gland        | Pars Distalis | Hyperplasia           | Minimal               |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Marked        |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 352

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400801

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone Marrow             |
| * Brain                     | * Clitoral Gland         | * Eye                      | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Ovary                     | * Pancreas               | * Salivary Glands          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          | Vagina                    |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|                   |   |                              |                         |
|-------------------|---|------------------------------|-------------------------|
| * Bone            |   | Fibro-Osseous Lesion         | Minimal                 |
| * Esophagus       |   | Inflammation                 | Chronic Active, Minimal |
| * Harderian Gland |   | Adenoma                      |                         |
| * Kidney          |   | Infarct                      | Minimal                 |
|                   |   | Nephropathy                  | Chronicprogr, Minimal   |
| * Liver           |   | Hepatocellular Carcinoma     |                         |
|                   | [ Hepatocellular Carcinoma TGLs = 1-13 ]    |                              |                         |
| * Lung            |   | Alveolar/Bronchiolar Adenoma |                         |
|                   | Alveolar Epith                              | Hyperplasia                  | Minimal                 |
|                   | [ Alveolar/Bronchiolar Adenoma TGLs = 2-4 ] |                              |                         |
| * Pituitary Gland | Pars Distalis                               | Hyperplasia                  | Mild                    |
| * Uterus          | Endometrium                                 | Hyperplasia                  | Cystic, Minimal         |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 353

TRT#: 8

SEX: Female

DAY ON TEST: 706

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400802

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | Blood Vessel              | * Bone                      | * Brain                  |
| * Esophagus                | * Eye                     | * Gallbladder               | * Harderian Gland        |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             | * Nose                   |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Thyroid Gland            | * Trachea                 |                             |                          |

MISSING

\* Clitoral Gland

OBSERVATIONS

|  |   |                              |                          |
|--|---|------------------------------|--------------------------|
| * Adrenal Cortex                                 |   | Extramedullary Hematopoiesis | Minimal                  |
|  |   | Hypertrophy                  | Minimal                  |
| * Bone Marrow                                    |   | Lymphoma Malignant           |                          |
| * Heart  | Epicardium                              | Inflammation                 | Chronic Active, Moderate |
| * Intestine Large, Cecum                         |   | Pigment                      | Minimal                  |
| * Kidney   |   | Lymphoma Malignant           |                          |
| * Liver  |   | Fatty Change                 | Diffuse, Marked          |
|  |   | Lymphoma Malignant           |                          |
| * Lung   |   | Hemorrhage                   | Moderate                 |
|  |   | Lymphoma Malignant           |                          |
| Lymph Node                                       |   | Lymphoma Malignant           |                          |
| Note: Lumbar and mediastinal nodes noted herein. |   |                              |                          |
|  | [ Lymphoma Malignant TGLs = 1,2-13+14 ] |                              |                          |
| * Lymph Node, Mandibular                         |   | Lymphoma Malignant           |                          |
|  | [ Lymphoma Malignant TGLs = 3-15 ]      |                              |                          |
| * Lymph Node, Mesenteric                         |   | Lymphoma Malignant           |                          |
|  | [ Lymphoma Malignant TGLs = 1-17 ]      |                              |                          |
| * Ovary  |   | Lymphoma Malignant           |                          |
| * Pancreas                                       |   | Lymphoma Malignant           |                          |
| * Spleen   |   | Lymphoma Malignant           |                          |
| * Stomach, Forestomach                           |   | Lymphoma Malignant           |                          |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 353

TRT#: 8

SEX: Female

DAY ON TEST: 706

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400802

ORGAN AND ACCOUNTABLE SITE STATUS

|                      |                                     |                    |                |
|----------------------|-------------------------------------|--------------------|----------------|
| * Stomach, Glandular |                                     | Ulcer              | Minimal        |
| * Thymus             |                                     | Lymphoma Malignant |                |
|                      | [ Lymphoma Malignant TGLs = 6-14 ]  | Lymphoma Malignant |                |
| * Urinary Bladder    |                                     | Lymphoma Malignant |                |
| * Uterus             | Endometrium                         | Hyperplasia        | Cystic, Marked |
|                      |                                     | Lymphoma Malignant |                |
|                      | Note: Endometrial erosions present. |                    |                |
|                      | [ Hyperplasia TGLs = 4-11+16 ]      |                    |                |
| Vagina               |                                     | Lymphoma Malignant |                |

PRIMARY CAUSE OF DEATH - Lymph Node, Mesenteric Lymphoma Malignant

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 354

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400803

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Mammary Gland          |
| * Nose                     | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|                          |               |                       |                            |
|--------------------------|---------------|-----------------------|----------------------------|
| * Intestine Large, Cecum |               | Pigment               | Minimal                    |
| * Kidney                 |               | Nephropathy           | Chronicprogr, Minimal      |
|                          |               | Pigment               | Minimal                    |
| * Liver                  | Renal Tubule  | Regeneration          | Minimal                    |
|                          |               | Eosinophilic Focus    |                            |
|                          |               | Infiltration Cellular | Mixed Cell, Minimal        |
| * Lymph Node, Mandibular |               | Hyperplasia           | Lymphocyte, Moderate       |
| * Lymph Node, Mesenteric | Lymph Sinus   | Ectasia               | Marked                     |
| [ Ectasia TGLs = 1-13 ]  |               |                       |                            |
| * Pituitary Gland        | Pars Distalis | Hyperplasia           | Minimal                    |
| * Spleen                 | White Pulp    | Hyperplasia           | Mild                       |
| * Thymus                 |               | Hyperplasia           | Atypical, Lymphocyte, Mild |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Minimal            |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 355

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400804

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | Vagina                     |                           |                             |

OBSERVATIONS

|          |             |              |                       |
|----------|-------------|--------------|-----------------------|
| * Kidney |             | Nephropathy  | Chronicprogr, Minimal |
| * Liver  |             | Inflammation | Focal, Minimal        |
| * Uterus | Endometrium | Hyperplasia  | Cystic, Minimal       |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 356

TRT#: 8

SEX: Female

DAY ON TEST: 722

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400805

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Mammary Gland             | * Parathyroid Gland      | * Salivary Glands          | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |
| Vagina                      |                          |                            |                           |

OBSERVATIONS

|                          |  |                       |                        |
|--------------------------|--|-----------------------|------------------------|
| * Adrenal Cortex         |  | Lymphoma Malignant    |                        |
| * Bone Marrow            |  | Lymphoma Malignant    |                        |
| * Heart                  |  | Cardiomyopathy        | Minimal                |
| * Kidney                 |  | Lymphoma Malignant    |                        |
| * Liver                  |  | Lymphoma Malignant    |                        |
|                          |  | Mixed Cell Focus      |                        |
|                          | Hepatocyte                             | Necrosis              | Mild                   |
| * Lung                   |  | Lymphoma Malignant    |                        |
| * Lymph Node, Mandibular |  | Lymphoma Malignant    |                        |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant    |                        |
| * Nose                   | Olfactory Epi                          | Metaplasia            | Minimal                |
| * Ovary                  |  | Cyst                  |                        |
| * Pancreas               |  | Lymphoma Malignant    |                        |
| * Pituitary Gland        | Pars Distalis                          | Hyperplasia           | Marked                 |
| * Skin                   |  | Infiltration Cellular | Mast Cell, Moderate    |
|                          |  | Inflammation          | Chronic Active, Marked |
|                          |  | Ulcer                 | Marked                 |
|                          | [ Inflammation TGLs = 1,3,4-13+15+16 ] |                       |                        |
|                          | [ Ulcer TGLs = 1,4-13+16 ]             |                       |                        |
| * Spleen                 |  | Lymphoma Malignant    |                        |
|                          | [ Lymphoma Malignant TGLs = 2-14 ]     |                       |                        |
| * Thymus                 |  | Atrophy               | Moderate               |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 356

TRT#: 8

SEX: Female

DAY ON TEST: 722

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400805

ORGAN AND ACCOUNTABLE SITE STATUS

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

Lymphoma Malignant

PRIMARY CAUSE OF DEATH

- Lymph Node, Mesenteric Lymphoma Malignant

CONTRIBUTORY CAUSE OF DEATH

- Skin Inflammation

- Skin Ulcer

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 357

TRT#: 8

SEX: Female

DAY ON TEST: 670

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400806

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                          |                            |                          |
|---------------------------|--------------------------|----------------------------|--------------------------|
| * Adrenal Medulla         | Blood Vessel             | * Bone                     | * Brain                  |
| * Clitoral Gland          | * Esophagus              | * Eye                      | * Gallbladder            |
| * Harderian Gland         | * Heart                  | * Intestine Large, Cecum   | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic     |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                   |
| * Ovary                   | * Pancreas               | * Pituitary Gland          | * Skin                   |
| * Stomach, Forestomach    | * Stomach, Glandular     | * Thyroid Gland            | * Trachea                |
| * Urinary Bladder         | Vagina                   |                            |                          |

MISSING

|                     |                   |
|---------------------|-------------------|
| * Parathyroid Gland | * Salivary Glands |
|---------------------|-------------------|

INSUFFICIENT TISSUE

\* Intestine Small, Duodenum

OBSERVATIONS

|                                   |                |                              |                      |
|-----------------------------------|----------------|------------------------------|----------------------|
| * Adrenal Cortex                  |                | Extramedullary Hematopoiesis | Minimal              |
| * Bone Marrow                     |                | Hypercellularity             | Marked               |
| * Kidney                          | Renal Tubule   | Necrosis                     | Marked               |
| * Liver                           |                | Eosinophilic Focus           |                      |
|                                   |                | Extramedullary Hematopoiesis | Mild                 |
|                                   |                | Fatty Change                 | Diffuse, Marked      |
| * Lung                            | Alveolar Epith | Hyperplasia                  | Minimal              |
| * Ovary                           |                |                              |                      |
| Note: One ovary present on slide. |                |                              |                      |
| * Spleen                          |                | Extramedullary Hematopoiesis | Mild                 |
| * Thymus                          |                | Atrophy                      | Marked               |
| * Uterus                          | Endometrium    | Hyperplasia                  | Cystic, Marked       |
|                                   |                | Inflammation                 | Chronic Active, Mild |

[ Hyperplasia TGLs = 1-13 ]

PRIMARY CAUSE OF DEATH - Kidney Renal Tubule Necrosis

CONTRIBUTORY CAUSE OF DEATH - Uterus Inflammation

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 358

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400807

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Nose                   | * Ovary                    | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Salivary Glands          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | Vagina                     |                           |                             |

OBSERVATIONS

|          |  |  |                    |
|----------|--|--|--------------------|
| * Liver  |  | Hepatocellular Adenoma<br>Inflammation | Focal, Minimal     |
|          | [ Hepatocellular Adenoma TGLs = 1-13 ] |  |                    |
| * Spleen |  | Infiltration Cellular                  | Histiocyte, Marked |
| * Uterus | Endometrium                            | Hyperplasia                            | Cystic, Minimal    |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 359

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400808

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     |
| * Parathyroid Gland      | * Pituitary Gland          | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

**OBSERVATIONS**

- |   |               |              |                       |
|---|---------------|--------------|-----------------------|
| * Kidney  |               | Nephropathy  | Chronicprogr, Minimal |
| * Liver   |               | Inflammation | Focal, Minimal        |
| Mesentery                                       | Fat           | Necrosis     | Moderate              |
| [ Necrosis TGLs = 1-14 ]                        |               |              |                       |
| * Nose  | Olfactory Epi | Metaplasia   | Minimal               |
| * Pancreas                                      | Acinus        | Atrophy      | Mild                  |
|   | Duct          | Cyst         |                       |
| * Urin Bladder                                  |               |              |                       |
| Note: Large submucosal lymphoid nodule present. |               |              |                       |
| * Uterus  | Endometrium   | Hyperplasia  | Cystic, Minimal       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 360

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400809

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|               |             |                       |                     |
|---------------|-------------|-----------------------|---------------------|
| * Bone Marrow |             | Hypocellularity       | Minimal             |
| * Liver       |             | Infiltration Cellular | Mixed Cell, Minimal |
|               |             | Inflammation          | Focal, Minimal      |
| * Uterus      | Endometrium | Hyperplasia           | Cystic, Minimal     |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 361

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400810

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         | Vagina                      |

**OBSERVATIONS**

- |                 |  |                        |                       |
|-----------------|--|------------------------|-----------------------|
| * Kidney        |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver         |  | Eosinophilic Focus     |                       |
|                 |  | Hepatocellular Adenoma |                       |
|                 |  | Infiltration Cellular  | Mixed Cell, Minimal   |
|                 |  | Inflammation           | Focal, Minimal        |
|                 | [ Hepatocellular Adenoma TGLs = 3-15 ] |                        |                       |
|                 | Mesentery Fat                          | Necrosis               | Moderate              |
|                 | [ Necrosis TGLs = 2-14 ]               |                        |                       |
| * Ovary         |  | Cystadenoma            |                       |
| * Thyroid Gland | Follicle                               | Degeneration           | Minimal               |
| * Uterus        | Endometrium                            | Hyperplasia            | Cystic, Marked        |
|                 | [ Hyperplasia TGLs = 1-12+13 ]         |                        |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 362

TRT#: 8

SEX: Female

DAY ON TEST: 430

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400811

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Liver                  | * Lung                     |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Nose                   | * Ovary                    |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |
| Vagina                    |                             |                          |                            |

MISSING

\* Mammary Gland

OBSERVATIONS

|  |             |                  |                     |
|--|-------------|------------------|---------------------|
| * Bone Marrow  |             | Hypercellularity | Mild                |
| * Heart  | Valve       | Inflammation     | Acute, Minimal      |
|  | Valve       | Thrombus         |                     |
| Note: Peracute inflammation associated with bacterial colonies on aortic valve. Septicemia attributed to cause of death. |             |                  |                     |
| * Uterus   | Endometrium | Hyperplasia      | Cystic, Mild        |
|  |             | Inflammation     | Suppurative, Marked |

PRIMARY CAUSE OF DEATH - Heart Valve Inflammation

CONTRIBUTORY CAUSE OF DEATH - Uterus Inflammation

Animal Note: Bacterial colonies in many tissues.



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 363

TRT#: 8

SEX: Female

DAY ON TEST: 667

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400812

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Liver                     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                            |

INSUFFICIENT TISSUE

\* Bone Marrow

OBSERVATIONS

|  |  |   |                       |
|--|--|---|-----------------------|
| * Heart  | Valve<br>Valve   | Inflammation<br>Thrombus                      | Suppurative, Mild     |
| Note: Inflammation associated with bacterial colonies. |  |   |                       |
| * Kidney   |  | Nephropathy                                   | Chronicprogr, Minimal |
| * Lung   | Alveolar Epith<br>[ Alveolar/Bronchiolar Carcinoma TGLs = 2-14 ] | Alveolar/Bronchiolar Carcinoma<br>Hyperplasia | Minimal               |
| * Mammary Gland  |  | Hyperplasia                                   | Minimal               |
| * Nose   |  | Inflammation                                  | Suppurative, Mild     |
| Note: Foreign material present in nasal cavity.        |  |   |                       |
| * Ovary  | Paraovarian<br>[ Cyst TGLs = 1-13 ]                              | Cyst  |                       |
| * Spleen   | White Pulp   | Atrophy                                       | Mild                  |
| * Thymus   |  | Atrophy                                       | Mild                  |
| * Uterus   | Endometrium  | Hyperplasia                                   | Cystic, Mild          |

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

CONTRIBUTORY CAUSE OF DEATH - Heart Valve Inflammation

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 364

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400813

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Clitoral Gland         | * Esophagus                | * Eye                     |
| * Gallbladder               | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Kidney                  |
| * Liver                     | * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| * Salivary Glands           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           | Vagina                   |                            |                           |

OBSERVATIONS

|                                  |               |                  |                 |
|----------------------------------|---------------|------------------|-----------------|
| * Adren Cortex                   |               |                  |                 |
| Note: only one adrenal on slide. |               |                  |                 |
| * Bone Marrow                    |               | Hypercellularity | Minimal         |
| * Harderian Gland                |               | Hyperplasia      | Minimal         |
| * Heart                          |               | Cardiomyopathy   | Minimal         |
| * Islets, Pancreatic             |               | Hyperplasia      | Minimal         |
| * Nose                           | Olfactory Epi | Metaplasia       | Minimal         |
| * Pituitary Gland                | Pars Distalis | Hyperplasia      | Minimal         |
| * Uterus                         | Endometrium   | Hyperplasia      | Cystic, Minimal |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 365

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400814

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lung                   | * Lymph Node, Mandibular   |
| * Mammary Gland           | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |

OBSERVATIONS

|                          |   |                        |                     |
|--------------------------|---|------------------------|---------------------|
| * Bone Marrow            |   | Hypercellularity       | Minimal             |
| * Intestine Large, Cecum |   | Pigment                | Minimal             |
| * Liver                  |   | Hepatocellular Adenoma | Multiple            |
|                          | [ Hepatocellular Adenoma TGLs = 1,2-13+14 ] |                        |                     |
| * Lymph Node, Mesenteric |   | Hyperplasia            | Lymphocyte, Marked  |
|                          | [ Hyperplasia TGLs = 3-15 ]                 |                        |                     |
| * Ovary                  |   | Cystadenoma            |                     |
| * Pituitary Gland        | Pars Distalis                               | Hyperplasia            | Minimal             |
| * Thyroid Gland          | Follicle                                    | Degeneration           | Minimal             |
| * Uterus                 | Endometrium                                 | Hyperplasia            | Cystic, Minimal     |
|                          |   | Infiltration Cellular  | Neutrophil, Minimal |
| Vagina                   |   | Leiomyosarcoma         |                     |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 366

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400815

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | Vagina                     |                           |                             |

**OBSERVATIONS**

- |                               |                    |                        |                       |
|-------------------------------|--------------------|------------------------|-----------------------|
| * Kidney                      |                    | Nephropathy            | Chronicprogr, Minimal |
| Note: Heterotopic bone noted. |                    |                        |                       |
| * Liver                       |                    | Hepatocellular Adenoma | Multiple              |
|                               |                    | Infiltration Cellular  | Mixed Cell, Minimal   |
|                               |                    | Inflammation           | Focal, Minimal        |
| [ Hepatocellular Adenoma      | TGLs = 1,2-13+14 ] |                        |                       |
| * Uterus                      | Endometrium        | Hyperplasia            | Cystic, Minimal       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 367

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400816

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                        |                          |                            |                      |
|------------------------|--------------------------|----------------------------|----------------------|
| * Adrenal Medulla      | Blood Vessel             | * Bone                     | * Clitoral Gland     |
| * Esophagus            | * Eye                    | * Gallbladder              | * Harderian Gland    |
| * Heart                | * Intestine Large, Colon | * Intestine Small, Jejunum | * Islets, Pancreatic |
| * Lung                 | * Lymph Node, Mandibular | * Mammary Gland            | * Pancreas           |
| * Parathyroid Gland    | * Salivary Glands        | * Skin                     | * Spleen             |
| * Stomach, Forestomach | * Trachea                |                            |                      |

OBSERVATIONS

|                             |               |                       |                       |
|-----------------------------|---------------|-----------------------|-----------------------|
| * Adrenal Cortex            | Subcapsular   | Hyperplasia           | Moderate              |
| * Bone Marrow               |               | Hypercellularity      | Minimal               |
| * Brain                     |               | Polyarteritis Nodosa  | Minimal               |
| * Intestine Large, Cecum    |               | Pigment               | Minimal               |
|                             |               | Polyarteritis Nodosa  | Moderate              |
| * Intestine Large, Rectum   |               | Polyarteritis Nodosa  | Moderate              |
| * Intestine Small, Duodenum |               | Polyarteritis Nodosa  | Mild                  |
| * Intestine Small, Ileum    |               | Polyarteritis Nodosa  | Mild                  |
| * Kidney                    |               | Nephropathy           | Chronicprogr, Minimal |
|                             |               | Polyarteritis Nodosa  | Mild                  |
| * Liver                     |               | Infiltration Cellular | Mixed Cell, Minimal   |
| * Lymph Node, Mesenteric    |               | Hyperplasia           | Plasma Cell, Moderate |
| Mesentery                   |               | Polyarteritis Nodosa  | Moderate              |
| * Nose                      |               | Inflammation          | Acute, Minimal        |
| * Ovary                     |               | Cystadenoma           |                       |
| * Pituitary Gland           | Pars Distalis | Hyperplasia           | Minimal               |
| * Stomach, Glandular        |               | Polyarteritis Nodosa  | Mild                  |
| * Thymus                    |               | Histiocytic Sarcoma   |                       |
| * Thyroid Gland             | Follicle      | Degeneration          | Mild                  |
| * Urinary Bladder           |               | Polyarteritis Nodosa  | Moderate              |
| * Uterus                    | Endometrium   | Hyperplasia           | Cystic, Minimal       |
| Vagina                      |               | Polyarteritis Nodosa  | Marked                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 368

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400817

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   |
| * Parathyroid Gland        | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|                   |                            |                       |                     |
|-------------------|----------------------------|-----------------------|---------------------|
| * Bone            |                            | Fibro-Osseous Lesion  | Minimal             |
| * Liver           |                            | Infiltration Cellular | Mixed Cell, Minimal |
|                   |                            | Inflammation          | Focal, Minimal      |
| * Ovary           |                            | Cyst                  |                     |
|                   | Follicle                   | Hemorrhage            | Mild                |
|                   | [ Cyst TGLs = 1-10 ]       |                       |                     |
|                   | [ Hemorrhage TGLs = 2-10 ] |                       |                     |
| * Pancreas        | Duct                       | Cyst                  |                     |
| * Pituitary Gland | Pars Distalis              | Hyperplasia           | Mild                |
| * Spleen          | White Pulp                 | Hyperplasia           | Minimal             |
| * Uterus          | Endometrium                | Hyperplasia           | Cystic, Minimal     |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 369

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400818

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |
| Vagina                    |                             |                          |                            |

OBSERVATIONS

|                          |                                    |                       |                       |
|--------------------------|------------------------------------|-----------------------|-----------------------|
| * Bone Marrow            |                                    | Hypercellularity      | Minimal               |
| * Intestine Large, Cecum |                                    | Pigment               | Minimal               |
| * Kidney                 |                                    | Nephropathy           | Chronicprogr, Minimal |
| * Liver                  |                                    | Basophilic Focus      |                       |
|                          |                                    | Eosinophilic Focus    |                       |
|                          |                                    | Infiltration Cellular | Mixed Cell, Minimal   |
|                          | [ Basophilic Focus TGLs = 1-6 ]    |                       |                       |
|                          | [ Eosinophilic Focus TGLs = 2-13 ] |                       |                       |
| * Ovary                  | Paraovarian                        | Cyst                  |                       |
| * Pituitary Gland        | Pars Distalis                      | Hyperplasia           | Moderate              |
| * Thyroid Gland          | Follicle                           | Degeneration          | Minimal               |
| * Uterus                 | Endometrium                        | Hyperplasia           | Cystic, Minimal       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 370

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400819

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | Blood Vessel             | * Brain                    | * Clitoral Gland          |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           |
| * Nose                      | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          | Vagina                    |

OBSERVATIONS

|  |               |                                       |                                       |
|--|---------------|---------------------------------------|---------------------------------------|
| * Adrenal Medulla  |               | Hyperplasia                           | Minimal                               |
| * Bone   |               | Fibrous Osteodystrophy                | Marked                                |
| Note: Tail (skin) nodule is due to enlargement of vertebral body in diffuse and uniform manner; thinning of bone with marked fibrous osteodystrophy present.<br>[ Fibrous Osteodystrophy TGLs = 1-14 ] |               |                                       |                                       |
| * Bone Marrow  |               | Hypercellularity                      | Mild                                  |
| * Kidney   |               | Nephropathy                           | Chronicprogr, Minimal                 |
| * Liver  |               | Infiltration Cellular<br>Inflammation | Mixed Cell, Minimal<br>Focal, Minimal |
| * Nose   |               |                                       |                                       |
| Note: Several cystic glands noted, not coded.  |               |                                       |                                       |
| * Ovary  | Follicle      | Cyst                                  |                                       |
| * Pituitary Gland  | Pars Distalis | Hyperplasia                           | Mild                                  |
| * Skin   |               |                                       |                                       |
| Note: Tail nodule related to enlarged vertebral body (and so noted in bone tissue on this micro exam).   |               |                                       |                                       |
| * Thymus   |               | Hyperplasia                           | Atypical, Lymphocyte, Moderate        |
| * Uterus   | Endometrium   | Hyperplasia                           | Cystic, Mild                          |
| [ Hyperplasia TGLs = 2-11+12 ]   |               |                                       |                                       |



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 371

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400820

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Nose                      | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           | Vagina                   |                            |

**OBSERVATIONS**

|                          |  |                              |                     |
|--------------------------|--|------------------------------|---------------------|
| * Bone Marrow            |  | Hypercellularity             | Minimal             |
| * Intestine Large, Cecum |  | Pigment                      | Minimal             |
| * Kidney                 | Renal Tubule                             | Necrosis                     | Minimal             |
| * Liver                  |  | Eosinophilic Focus           |                     |
|                          | Hepatocyte                               | Hepatocellular Carcinoma     |                     |
|                          | [ Hepatocellular Carcinoma TGLs = 2-14 ] | Necrosis                     | Moderate            |
| * Spleen                 |  | Extramedullary Hematopoiesis | Mild                |
| * Uterus                 |  | Angiectasis                  | Marked              |
|                          | Endometrium                              | Hyperplasia                  | Cystic, Minimal     |
|                          |  | Infiltration Cellular        | Neutrophil, Minimal |

Note: Multiple thrombi in dilated vessels present.

[ Angiectasis TGLs = 1-13 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 372

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400821

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

- |                   |  |                        |                       |
|-------------------|--|------------------------|-----------------------|
| * Eye             |  |                        |                       |
|                   | Note: One eye "insufficient" tissue presented. |                        |                       |
| * Harderian Gland |  | Hyperplasia            | Marked                |
| * Kidney          |  | Nephropathy            | Chronicprogr, Minimal |
| * Liver           |  | Hepatocellular Adenoma |                       |
|                   |  | Inflammation           | Focal, Minimal        |
|                   | [ Hepatocellular Adenoma TGLs = 2-14 ]         |                        |                       |
| * Thyroid Gland   | Follicle                                       | Degeneration           | Minimal               |
| * Uterus          | Endometrium                                    | Hyperplasia            | Cystic, Marked        |
|                   | [ Hyperplasia TGLs = 1-12+13 ]                 |                        |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 373

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400822

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Mammary Gland            | * Nose                    | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | * Uterus                  | Vagina                      |                          |

**OBSERVATIONS**

|                          |          |                    |         |
|--------------------------|----------|--------------------|---------|
| * Intestine Large, Cecum |          | Pigment            | Minimal |
| * Kidney                 |          | Lymphoma Malignant |         |
| * Liver                  |          | Lymphoma Malignant |         |
| * Lymph Node, Mesenteric |          | Lymphoma Malignant |         |
| * Spleen                 |          | Lymphoma Malignant |         |
| * Thyroid Gland          | Follicle | Degeneration       | Minimal |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 374

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400823

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Mammary Gland          |
| * Nose                     | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

OBSERVATIONS

|   |             |                                |                       |
|---|-------------|--------------------------------|-----------------------|
| * Harderian Gland   |             | Adenoma                        |                       |
| [ Adenoma TGLs = 4-8 ]  |             |                                |                       |
| * Kidney  |             | Lymphoma Malignant             |                       |
|   |             | Nephropathy                    | Chronicprogr, Minimal |
| * Liver   |             | Basophilic Focus               |                       |
|   |             | Hepatocellular Adenoma         |                       |
|   |             | Infiltration Cellular          | Mixed Cell, Minimal   |
|   |             | Inflammation                   | Focal, Minimal        |
| [ Basophilic Focus TGLs = 2-6 ]   |             |                                |                       |
| [ Hepatocellular Adenoma TGLs = 3-14 ]  |             |                                |                       |
| * Lung  |             | Alveolar/Bronchiolar Carcinoma |                       |
| Note: Large numbers of eosinophilic macrophages noted in reaction to AB carc. |             |                                |                       |
| [ Alveolar/Bronchiolar Carcinoma TGLs = 1-13 ]                                |             |                                |                       |
| * Lymph Node, Mesenteric  |             | Lymphoma Malignant             |                       |
| [ Lymphoma Malignant TGLs = 5-6 ]   |             |                                |                       |
| * Thyroid Gland   | Follicle    | Degeneration                   | Mild                  |
| * Uterus  | Endometrium | Hyperplasia                    | Cystic, Minimal       |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 375

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400824

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * Bone                     |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |
| Vagina                    |                             |                          |                            |

**OBSERVATIONS**

|                                   |                |                       |                       |
|-----------------------------------|----------------|-----------------------|-----------------------|
| * Bone Marrow                     |                | Hypercellularity      | Mild                  |
| * Clitoral GI                     |                |                       |                       |
| Note: Only one clitoral on slide. |                |                       |                       |
| * Intestine Large, Cecum          |                | Pigment               | Minimal               |
| * Kidney                          |                | Nephropathy           | Chronicprogr, Minimal |
| * Liver                           |                | Infiltration Cellular | Mixed Cell, Minimal   |
| * Lung                            | Alveolar Epith | Hyperplasia           | Minimal               |
| Mesentery                         | Fat            | Necrosis              | Marked                |
| [ Necrosis TGLs = 2-15 ]          |                |                       |                       |
| * Nose                            | Olfactory Epi  | Metaplasia            | Minimal               |
| * Ovary                           |                | Cyst                  |                       |
| * Uterus                          | Endometrium    | Hyperplasia           | Cystic, Marked        |
|                                   |                | Infiltration Cellular | Neutrophil, Minimal   |
| [ Hyperplasia TGLs = 1-14+12 ]    |                |                       |                       |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 376

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400825

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Bone                    |
| * Brain                     | * Clitoral Gland         | * Esophagus                | * Eye                     |
| * Gallbladder               | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Liver                     | * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          | Vagina                    |

OBSERVATIONS

|                          |               |                       |                    |
|--------------------------|---------------|-----------------------|--------------------|
| * Bone Marrow            |               | Hypercellularity      | Minimal            |
| * Harderian Gland        |               | Hyperplasia           | Minimal            |
| * Intestine Large, Cecum |               | Pigment               | Minimal            |
| * Kidney                 | Renal Tubule  | Regeneration          | Minimal            |
| * Nose                   | Olfactory Epi | Metaplasia            | Minimal            |
| * Ovary                  | Follicle      | Cyst                  |                    |
| * Pituitary Gland        | Pars Distalis | Hyperplasia           | Minimal            |
| * Spleen                 |               | Infiltration Cellular | Histiocyte, Marked |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Marked     |

[ Hyperplasia TGLs = 1-11+12+13 ]

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 377

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400826

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | Vagina                     |                           |                             |

OBSERVATIONS

|          |                                    |                       |                       |
|----------|------------------------------------|-----------------------|-----------------------|
| * Kidney |                                    | Nephropathy           | Chronicprogr, Minimal |
| * Liver  |                                    | Angiectasis           | Mild                  |
|          |                                    | Eosinophilic Focus    |                       |
|          |                                    | Infiltration Cellular | Mixed Cell, Minimal   |
|          | [ Angiectasis TGLs = 2-14 ]        |                       |                       |
|          | [ Eosinophilic Focus TGLs = 2-14 ] |                       |                       |
| * Uterus | Endometrium                        | Hyperplasia           | Cystic, Marked        |
|          |                                    | Inflammation          | Acute, Mild           |
|          | [ Hyperplasia TGLs = 1-11+12 ]     |                       |                       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 378

TRT#: 8

SEX: Female

DAY ON TEST: 721

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400827

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Nose                    | * Pancreas                  | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | Vagina                   |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|               |  |                                |                    |
|---------------|--|--------------------------------|--------------------|
| * Bone Marrow |  | Hypercellularity               | Mild               |
| * Kidney      |  | Infarct                        | Mild               |
| * Liver       |  | Inflammation                   | Focal, Minimal     |
| * Lung        |  | Alveolar/Bronchiolar Carcinoma |                    |
|               |  | Infiltration Cellular          | Histiocyte, Marked |
|               | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-13 ] |                                |                    |
|               | [ Infiltration Cellular TGLs = 2-4+13 ]        |                                |                    |
| * Ovary       |  | Angiectasis                    | Mild               |
| * Spleen      | Red Pulp                                       | Atrophy                        | Moderate           |
| * Thymus      |  | Atrophy                        | Marked             |
| * Uterus      | Endometrium                                    | Hyperplasia                    | Cystic, Mild       |

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma



**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 379

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400828

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Mammary Gland            | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | * Uterus                    |
| Vagina                   |                            |                           |                             |

**OBSERVATIONS**

|  |     |                              |                       |
|--|-----|------------------------------|-----------------------|
| * Kidney   |     | Nephropathy                  | Chronicprogr, Minimal |
| Note: Red-orange material in pelvis of uncertain significance. |     |                              |                       |
| * Liver  |     | Infiltration Cellular        | Mixed Cell, Minimal   |
|  |     | Inflammation                 | Focal, Minimal        |
| * Lymph Node, Mesenteric                                       |     | Extramedullary Hematopoiesis | Minimal               |
| Mesentery  | Fat | Necrosis                     | Marked                |
| [ Necrosis TGLs = 1-13 ]                                       |     |                              |                       |
| * Spleen   |     | Extramedullary Hematopoiesis | Minimal               |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 380

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400829

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|               |                  |                  |                       |
|---------------|------------------|------------------|-----------------------|
| * Bone Marrow |                  | Hypercellularity | Marked                |
| * Kidney      |                  | Nephropathy      | Chronicprogr, Minimal |
| * Liver       |                  | Inflammation     | Focal, Minimal        |
| * Uterus      |                  | Angiectasis      | Marked                |
|               | Endometrium      | Hyperplasia      | Cystic, Marked        |
| [ Angiectasis | TGLs = 2-12+13 ] |                  |                       |
| [ Hyperplasia | TGLs = 1-12+13 ] |                  |                       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 381

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400830

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Salivary Glands          | * Skin                    | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Trachea                 | * Urinary Bladder           | * Uterus                 |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|  |               |  |                  |
|--|---------------|--|------------------|
| * Bone Marrow  |               | Hypercellularity                               | Mild             |
| * Liver  |               | Clear Cell Focus                               |                  |
|  |               | Hepatocellular Adenoma                         |                  |
|  |               | Inflammation                                   | Focal, Minimal   |
| Note: Large "focus" coded "clear cell focus" due to incomplete compression and numerous embedded portal elements.  |               |  |                  |
|  |               | [ Clear Cell Focus TGLs = 3-15 ]               |                  |
|  |               | [ Hepatocellular Adenoma TGLs = 2-14 ]         |                  |
| * Lung   |               | Alveolar/Bronchiolar Carcinoma                 |                  |
| Note: Although section presented on slide 13 is incomplete, a diagnosis of AB carc was rendered, based in part on extensive eosinophilic alveolar macrophage infiltrate. |               |  |                  |
|  |               | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-13 ] |                  |
| * Lymph Node, Mesenteric   |               | Hyperplasia                                    | Lymphocyte, Mild |
| * Nose   | Olfactory Epi | Metaplasia                                     | Minimal          |
| * Pituitary Gland  | Pars Distalis | Hyperplasia                                    | Minimal          |
| * Thymus   |               | Lymphoma Malignant                             |                  |
| * Thyroid Gland  | Follicle      | Degeneration                                   | Mild             |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 382

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400831

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone Marrow             | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Nose                    | * Ovary                     | * Pancreas               |
| * Parathyroid Gland        | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | Vagina                   |

OBSERVATIONS

|                               |             |                      |                       |
|-------------------------------|-------------|----------------------|-----------------------|
| * Adrenal Cortex              |             | Necrosis             | Marked                |
| Blood Vessel                  |             | Polyarteritis Nodosa | Mild                  |
| * Bone                        |             | Fibro-Osseous Lesion | Minimal               |
| * Brain                       |             | Gliosis              | Minimal               |
|                               |             | Polyarteritis Nodosa | Marked                |
| * Intestine Large, Cecum      |             | Pigment              | Minimal               |
| * Islets, Pancreatic          |             | Hyperplasia          | Minimal               |
| * Kidney                      |             | Nephropathy          | Chronicprogr, Minimal |
| Note: Heterotopic bone noted. |             |                      |                       |
| * Liver                       |             | Inflammation         | Focal, Minimal        |
| * Uterus                      | Endometrium | Hyperplasia          | Cystic, Minimal       |
|                               |             | Polyarteritis Nodosa | Moderate              |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 383

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400832

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Trachea                  | * Urinary Bladder         | Vagina                      |                          |

OBSERVATIONS

\* Adren Cortex

Note: Focal fatty degeneration of cortex noted.

\* Bone Marrow

\* Liver

\* Pituitary Gland

\* Spleen

\* Thyroid Gland

\* Uterus

Pars Distalis

White Pulp

Follicle

Endometrium

Hypercellularity

Eosinophilic Focus

Inflammation

Adenoma

Hyperplasia

Degeneration

Hyperplasia

Moderate

Focal, Minimal

Minimal

Minimal

Cystic, Moderate

[ Hyperplasia TGLs = 1-12+14 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 384

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400833

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Clitoral Gland         | * Esophagus                | * Eye                     | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             |
| * Parathyroid Gland      | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | * Uterus                    |
| Vagina                   |                            |                           |                             |

OBSERVATIONS

|                          |   |                    |         |
|--------------------------|---|--------------------|---------|
| * Bone Marrow            |   | Hypercellularity   | Mild    |
| * Brain                  |   | Lymphoma Malignant |         |
| * Gallbladder            |   | Lymphoma Malignant |         |
| * Harderian Gland        |   | Lymphoma Malignant |         |
| * Kidney                 |   | Lymphoma Malignant |         |
|                          | [ Lymphoma Malignant TGLs = 5-5+14 ]                        |                    |         |
| * Liver                  |   | Lymphoma Malignant |         |
|                          | [ Lymphoma Malignant TGLs = 8-4+5+6+18 ]                    |                    |         |
| * Lung                   |   | Lymphoma Malignant |         |
| Lymph Node               |   | Lymphoma Malignant |         |
|                          | Note: Mediastinal, renal, lumbar affected as noted in TGLs. |                    |         |
|                          | [ Lymphoma Malignant TGLs = 1,4,6-17+15+16 ]                |                    |         |
| * Lymph Node, Mandibular |   | Lymphoma Malignant |         |
|                          | [ Lymphoma Malignant TGLs = 2-13 ]                          |                    |         |
| * Lymph Node, Mesenteric |   | Lymphoma Malignant |         |
|                          | [ Lymphoma Malignant TGLs = 7-6 ]                           |                    |         |
| Mesentery                |   | Lymphoma Malignant |         |
| * Nose                   | Olfactory Epi   | Metaplasia         | Minimal |
| * Ovary                  |   | Lymphoma Malignant |         |
| * Pancreas               |   | Lymphoma Malignant |         |
| * Pituitary Gland        | Pars Distalis   | Hyperplasia        | Marked  |
| * Salivary Glands        |   | Lymphoma Malignant |         |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

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**ANIMAL ID:** 384

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400833

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 3-5 ]

\* Thymus

Lymphoma Malignant

---

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 385

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400834

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Nose                      | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Stomach, Forestomach     |
| * Thymus                  | * Trachea                   | * Urinary Bladder        | Vagina                     |

OBSERVATIONS

|                      |  |                                   |                         |
|----------------------|--|-----------------------------------|-------------------------|
| * Adrenal Cortex     |  | Accessory Adrenal Cortical Nodule |                         |
| * Bone Marrow        |  | Hypercellularity                  | Moderate                |
| * Kidney             | Renal Tubule   | Accumulation, Hyaline Droplet     | Moderate                |
|                      | Renal Tubule   | Regeneration                      | Moderate                |
| * Liver              |  | Eosinophilic Focus                |                         |
|                      |  | Infiltration Cellular             | Mixed Cell, Minimal     |
|                      |  | Inflammation                      | Focal, Minimal          |
|                      | Hepatocyte   | Necrosis                          | Minimal                 |
| * Skin               |  | Fibrous Histiocytoma              |                         |
|                      | Note: Fibrous histiocytoma chosen due to eosinophilic hyaline droplets in renal tubules (consistent with histiocytoma-type cells).<br>[ Fibrous Histiocytoma TGLs = 1-13 ] |                                   |                         |
| * Spleen             |  | Extramedullary Hematopoiesis      | Minimal                 |
| * Stomach, Glandular |  | Inflammation                      | Chronic Active, Minimal |
| * Thyroid Gland      | Follicle   | Degeneration                      | Mild                    |
| * Uterus             | Endometrium  | Hyperplasia                       | Cystic, Marked          |
|                      | [ Hyperplasia TGLs = 2-11+12 ]   |                                   |                         |



Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 386

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400835

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Heart                  | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           |
| * Nose                      | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Salivary Glands        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| Vagina                      |                          |                            |                           |

OBSERVATIONS

|  |             |                        |                       |
|--|-------------|------------------------|-----------------------|
| * Bone   |             | Increased Bone         | Minimal               |
| * Bone Marrow  |             | Hypercellularity       | Mild                  |
| * Intestine Large, Cecum   |             | Pigment                | Minimal               |
| * Kidney   |             | Nephropathy            | Chronicprogr, Minimal |
| * Liver  |             | Hepatocellular Adenoma |                       |
|  |             | Lymphoma Malignant     |                       |
| Note: Nodule (adenoma) is present on slide 05 not 06. Unclear if this was what was described as TGL-1, but with no nodule on slide 06, that was coded "NCL." |             |                        |                       |
| * Spleen   |             | Lymphoma Malignant     |                       |
| * Thyroid Gland  | Follicle    | Degeneration           | Minimal               |
| * Uterus   | Endometrium | Hyperplasia            | Cystic, Minimal       |
|  |             | Inflammation           | Acute, Minimal        |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 387

TRT#: 8

SEX: Female

DAY ON TEST: 47

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400836

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Liver                  |
| * Lung                     | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Nose                     | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         | * Uterus                    | Vagina                   |

OBSERVATIONS

\* Bone Marrow Hypercellularity Moderate

Note: While marrow was coded "hyperplasia", this may be within normal limits for young mouse (died on day 47).

\* Thymus

Note: "Exploded" thymus is appearing more structurally correct with each recut; apparent edema attributed to artifact.

PRIMARY CAUSE OF DEATH

- UNCERTAIN

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 388

TRT#: 8

SEX: Female

DAY ON TEST: 683

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400837

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | Blood Vessel               | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          | * Skin                    |
| * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |
| * Uterus                    | Vagina                   |                            |                           |

OBSERVATIONS

Blood Vessel

Note: Tumor met in peri-aortic tissue.

\* Bone

Fibro-Osseous Lesion

Minimal

\* Bone Marrow

Hypercellularity

Marked

\* Clitoral GI

Note: Only one clitoral on slide.

\* Gallbladder

Note: Gallbladder was dilated, presumably related to tumor involving both liver and bile ducts.

\* Heart

Cardiomyopathy

Minimal

\* Kidney

Inflammation

Chronic Active, Minimal

\* Liver

Nephropathy

Chronicprogr, Minimal

Hepatocellular Adenoma

Multiple

Hepatocholangiocarcinoma

Necrosis

Minimal

Hepatocyte

[ Hepatocellular Adenoma TGLs = 3,4-13 ]

[ Hepatocholangiocarcinoma TGLs = 1-14 ]

\* Lung

Alveolar/Bronchiolar Carcinoma

Multiple

Hepatocholangiocarcinoma

Metastatic (Liver)

[ Alveolar/Bronchiolar Carcinoma TGLs = 2-4+15 ]

[ Hepatocholangiocarcinoma TGLs = 2-4+15 ]

\* Nose

Olfactory Epi

Metaplasia

Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 388

TRT#: 8

SEX: Female

DAY ON TEST: 683

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400837

**ORGAN AND ACCOUNTABLE SITE STATUS**

|                        |            |                                |                   |
|------------------------|------------|--------------------------------|-------------------|
| * Ovary                | Follicle   | Cyst                           |                   |
| * Spleen               |            | Extramedullary Hematopoiesis   | Minimal           |
| * Stomach, Forestomach | Epithelium | Hyperplasia                    | Moderate          |
| * Thymus               |            | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung) |

PRIMARY CAUSE OF DEATH - Liver Hepatocholangiocarcinoma  
CONTRIBUTORY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 389

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400838

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

**OBSERVATIONS**

|                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Bone                   |  | Fibro-Osseous Lesion         | Minimal               |
| * Kidney                 |  | Nephropathy                  | Chronicprogr, Minimal |
|                          | Renal Tubule                             | Regeneration                 | Minimal               |
| * Liver                  |  | Hepatocellular Carcinoma     |                       |
|                          |  | Infiltration Cellular        | Mixed Cell, Minimal   |
|                          |  | Inflammation                 | Focal, Minimal        |
|                          | [ Hepatocellular Carcinoma TGLs = 1-13 ] |                              |                       |
| * Lymph Node, Mesenteric |  | Extramedullary Hematopoiesis | Moderate              |
| * Nose                   | Olfactory Epi                            | Metaplasia                   | Minimal               |
| * Spleen                 |  | Extramedullary Hematopoiesis | Minimal               |
| * Stomach, Glandular     |  | Cyst                         |                       |
| * Uterus                 | Endometrium                              | Hyperplasia                  | Cystic, Marked        |
|                          | [ Hyperplasia TGLs = 2-11+12+14 ]        |                              |                       |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 390

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400839

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Gallbladder             | * Harderian Gland           | * Heart                  | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Ovary                   | * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | Vagina                     |

**OBSERVATIONS**

|  |               |                                   |                                     |
|--|---------------|-----------------------------------|-------------------------------------|
| * Adrenal Cortex   |               | Accessory Adrenal Cortical Nodule |                                     |
|  |               | Hypertrophy                       | Moderate                            |
| * Intestine Large, Cecum   |               | Pigment                           | Minimal                             |
| * Kidney   |               | Nephropathy                       | Chronicprogr, Minimal               |
| * Liver  |               | Eosinophilic Focus                |                                     |
|  |               | Infiltration Cellular             | Mixed Cell, Minimal                 |
|  |               | Inflammation                      | Focal, Minimal                      |
| Note: Multiple eos foci noted.<br>[ Eosinophilic Focus TGLs = 1-13 ]   |               |                                   |                                     |
| * Lung   |               | Carcinoma                         | Metastatic (Uncertain Primary Site) |
| Note: Embolus of foamy cells noted in blood vessel; appearance marginally similar to Harderian tissue, or possibly adrenal cortex, but no primary carcinoma found. |               |                                   |                                     |
| * Nose   | Olfactory Epi | Metaplasia                        | Minimal                             |
| * Pituitary Gland  | Pars Distalis | Hyperplasia                       | Mild                                |
| * Spleen   |               | Extramedullary Hematopoiesis      | Minimal                             |
| * Uterus   | Endometrium   | Hyperplasia                       | Cystic, Moderate                    |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 391

TRT#: 8

SEX: Female

DAY ON TEST: 668

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400840

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | Blood Vessel                | * Bone                   | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Eye                    | * Gallbladder              |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Mammary Gland          | * Nose                     |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         | Vagina                      |                          |                            |

**OBSERVATIONS**

|                          |  |                    |          |
|--------------------------|--|--------------------|----------|
| * Adrenal Cortex         |  | Hyperplasia        | Mild     |
| * Bone Marrow            |  | Lymphoma Malignant |          |
| * Kidney                 |  | Lymphoma Malignant |          |
|                          | Renal Tubule   | Necrosis           | Moderate |
| * Liver                  |  | Lymphoma Malignant |          |
|                          | [ Lymphoma Malignant TGLs = 6-17 ]                         |                    |          |
| Lymph Node               |  | Lymphoma Malignant |          |
|                          | Note: TGLs 1,2,7 are renal, lumbar, and mediastinal nodes. |                    |          |
|                          | [ Lymphoma Malignant TGLs = 1-13; 2-14; 7-7+16 ]           |                    |          |
| * Lymph Node, Mandibular |  | Atrophy            | Moderate |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant |          |
|                          | [ Lymphoma Malignant TGLs = 3-15 ]                         |                    |          |
| * Ovary                  |  | Lymphoma Malignant |          |
| * Pancreas               |  | Lymphoma Malignant |          |
| * Spleen                 |  | Lymphoma Malignant |          |
|                          | [ Lymphoma Malignant TGLs = 4,5-5 ]                        |                    |          |
| * Thymus                 |  | Atrophy            | Marked   |
| * Uterus                 |  | Lymphoma Malignant |          |

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 392

TRT#: 8

SEX: Female

DAY ON TEST: 727

DOSE: 2000 mg/L

DISP: Natural Death

HISTO: 1400841

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | Blood Vessel             | * Brain                    | * Clitoral Gland          |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Mammary Gland             | * Nose                   | * Parathyroid Gland        | * Pituitary Gland         |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Trachea                   | Vagina                   |                            |                           |

MISSING

\* Adrenal Medulla

OBSERVATIONS

|                          |                                   |                      |                  |
|--------------------------|-----------------------------------|----------------------|------------------|
| * Bone                   |                                   | Fibro-Osseous Lesion | Minimal          |
| * Bone Marrow            |                                   | Lymphoma Malignant   |                  |
| * Kidney                 |                                   | Lymphoma Malignant   |                  |
| * Liver                  |                                   | Lymphoma Malignant   |                  |
| * Lung                   |                                   | Lymphoma Malignant   |                  |
| * Lymph Node, Mandibular |                                   | Lymphoma Malignant   |                  |
| * Lymph Node, Mesenteric |                                   | Lymphoma Malignant   |                  |
| Mesentery                |                                   | Lymphoma Malignant   |                  |
| * Ovary                  |                                   | Lymphoma Malignant   |                  |
| * Pancreas               |                                   | Lymphoma Malignant   |                  |
| * Spleen                 |                                   | Lymphoma Malignant   |                  |
|                          | [ Lymphoma Malignant TGLs = 2-5 ] |                      |                  |
| * Thymus                 |                                   | Lymphoma Malignant   |                  |
| * Thyroid Gland          | Follicle                          | Degeneration         | Mild             |
| * Urinary Bladder        |                                   | Lymphoma Malignant   |                  |
| * Uterus                 | Endometrium                       | Hyperplasia          | Cystic, Moderate |
|                          | [ Hyperplasia TGLs = 1-11+12 ]    | Polyp Stromal        |                  |

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 393

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400842

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  |
| * Parathyroid Gland      | * Pituitary Gland          | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         | Vagina                      |

OBSERVATIONS

|          |               |                       |                       |
|----------|---------------|-----------------------|-----------------------|
| * Kidney |               | Infarct               | Minimal               |
|          |               | Nephropathy           | Chronicprogr, Minimal |
| * Liver  |               | Infiltration Cellular | Mixed Cell, Minimal   |
| * Nose   | Olfactory Epi | Metaplasia            | Minimal               |
| * Ovary  |               | Cystadenoma           |                       |
| Tooth    |               | Dental Dysplasia      | Minimal               |
| * Uterus | Endometrium   | Hyperplasia           | Cystic, Marked        |

[ Hyperplasia TGLs = 1-12+14 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

**ANIMAL ID:** 394

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400843

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Eye                    | * Gallbladder              | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Mammary Gland            | * Nose                    | * Ovary                     |
| * Pancreas               | * Pituitary Gland          | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Thymus                   | * Trachea                 | * Urinary Bladder           |
| * Uterus                 | Vagina                     |                           |                             |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|                          |  |                              |                       |
|--------------------------|--|------------------------------|-----------------------|
| * Kidney                 |  | Nephropathy                  | Chronicprogr, Minimal |
|                          | Renal Tubule                           | Regeneration                 | Minimal               |
| * Liver                  |  | Hepatocellular Adenoma       |                       |
|                          |  | Infiltration Cellular        | Mixed Cell, Minimal   |
|                          | [ Hepatocellular Adenoma TGLs = 1-14 ] |                              |                       |
| * Lymph Node, Mesenteric |  | Extramedullary Hematopoiesis | Minimal               |
| * Spleen                 | White Pulp                             | Hyperplasia                  | Moderate              |
| * Stomach, Glandular     |  | Cyst                         |                       |
| * Thyroid Gland          | Follicular Cel                         | Adenoma                      |                       |
|                          | Follicle                               | Degeneration                 | Mild                  |
|                          | [ Adenoma TGLs = 2-4 ]                 |                              |                       |

**Experiment Number:** 03038 - 04  
**Test Type:** CHRONIC  
**Route:** DOSED WATER  
**Species/Strain:** MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
**CAS Number:** 10213-10-2

**Date Report Requested:** 06/26/2019  
**Time Report Requested:** 10:11:56  
**First Dose M/F:** 01/17/12 / 01/16/12  
**Lab:** BAT

**ANIMAL ID:** 395

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 2000 mg/L

**DISP:** Terminal Sacrifice

**HISTO:** 1400844

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Kidney                  | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      | * Ovary                  |
| * Pancreas                 | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | Vagina                   |

**MISSING**

\* Parathyroid Gland

**OBSERVATIONS**

|                        |               |                       |                     |
|------------------------|---------------|-----------------------|---------------------|
| * Bone                 |               | Fibro-Osseous Lesion  | Minimal             |
| * Islets, Pancreatic   |               | Hyperplasia           | Minimal             |
| * Liver                |               | Infiltration Cellular | Mixed Cell, Minimal |
|                        |               | Inflammation          | Focal, Minimal      |
| * Pituitary Gland      | Pars Distalis | Hyperplasia           | Minimal             |
| * Stomach, Forestomach | Epithelium    | Hyperplasia           | Moderate            |
| * Stomach, Glandular   |               | Cyst                  |                     |
| * Thyroid Gland        | Follicle      | Degeneration          | Minimal             |
| * Uterus               | Endometrium   | Hyperplasia           | Cystic, Moderate    |

[ Hyperplasia TGLs = 1,2-14+15 ]

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 396

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400845

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  | * Parathyroid Gland      |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| Vagina                     |                           |                             |                          |

OBSERVATIONS

|                                 |                      |                               |                     |
|---------------------------------|----------------------|-------------------------------|---------------------|
| * Brain                         |                      | Atrophy                       | Marked              |
|                                 | Meninges             | Hemangiosarcoma               |                     |
| Note: Olfactory bulbs.          |                      |                               |                     |
| * Kidney                        |                      | Metaplasia                    | Osseous, Minimal    |
| Note: Heterotopic bone present. |                      |                               |                     |
| * Liver                         |                      | Infiltration Cellular         | Mixed Cell, Minimal |
|                                 |                      | Inflammation                  | Focal, Minimal      |
| * Nose                          | Respirat Epith       | Accumulation, Hyaline Droplet | Marked              |
|                                 | Nerve, Olfactory Epi | Atrophy                       | Minimal             |
| * Ovary                         | Follicle             | Cyst                          |                     |
| * Pituitary Gland               |                      | Hemangiosarcoma               |                     |
| * Spleen                        |                      | Extramedullary Hematopoiesis  | Minimal             |
| * Uterus                        | Endometrium          | Hyperplasia                   | Cystic, Mild        |

Experiment Number: 03038 - 04  
 Test Type: CHRONIC  
 Route: DOSED WATER  
 Species/Strain: MICE/B6C3F1/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Sodium Tungstate Dihydrate  
 CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
 Time Report Requested: 10:11:56  
 First Dose M/F: 01/17/12 / 01/16/12  
 Lab: BAT

ANIMAL ID: 397

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400846

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

|                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone Marrow               |
| * Brain                  | * Clitoral Gland           | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Mammary Gland          | * Nose                     | * Ovary                   | * Parathyroid Gland         |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |
| Vagina                   |                            |                           |                             |

**OBSERVATIONS**

|                          |               |                       |                         |
|--------------------------|---------------|-----------------------|-------------------------|
| * Bone                   |               | Fibro-Osseous Lesion  | Minimal                 |
| * Esophagus              |               | Inflammation          | Chronic Active, Minimal |
| * Gallbladder            |               | Inflammation          | Chronic Active, Mild    |
| * Heart                  | Valve         | Inflammation          | Chronic, Minimal        |
| * Islets, Pancreatic     |               | Hyperplasia           | Minimal                 |
| * Kidney                 |               | Nephropathy           | Chronicprogr, Minimal   |
|                          | Renal Tubule  | Regeneration          | Minimal                 |
| * Liver                  |               | Infiltration Cellular | Mixed Cell, Minimal     |
| * Lymph Node, Mesenteric |               | Hyperplasia           | Lymphocyte, Minimal     |
| * Pancreas               |               | Inflammation          | Chronic Active, Minimal |
| * Pituitary Gland        | Pars Distalis | Hyperplasia           | Minimal                 |
| * Spleen                 | White Pulp    | Hyperplasia           | Mild                    |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Mild            |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 398

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400847

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Bone Marrow              | * Brain                   | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Gallbladder             | * Harderian Gland           | * Heart                  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Liver                     | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Ovary                  |
| * Pancreas                 | * Salivary Glands         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          | Vagina                    |                             |                          |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                          |               |                       |                       |
|--------------------------|---------------|-----------------------|-----------------------|
| * Intestine Large, Cecum |               | Pigment               | Minimal               |
| * Kidney                 |               | Nephropathy           | Chronicprogr, Minimal |
| * Nose                   |               | Hemangioma            |                       |
|                          | Olfactory Epi | Metaplasia            | Mild                  |
| * Pituitary Gland        | Pars Distalis | Hyperplasia           | Minimal               |
| * Thyroid Gland          | Follicle      | Degeneration          | Minimal               |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Mild          |
|                          |               | Infiltration Cellular | Mixed Cell, Minimal   |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 399

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400848

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | Blood Vessel                | * Bone                   |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Eye                    |
| * Gallbladder              | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mandibular   | * Mammary Gland           | * Ovary                     | * Pancreas               |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | Vagina                   |

MISSING

\* Parathyroid Gland

OBSERVATIONS

|                          |               |                       |                     |
|--------------------------|---------------|-----------------------|---------------------|
| * Bone Marrow            |               | Hypercellularity      | Mild                |
| * Liver                  |               | Infiltration Cellular | Mixed Cell, Minimal |
|                          |               | Inflammation          | Focal, Minimal      |
| * Lymph Node, Mesenteric |               | Hyperplasia           | Lymphocyte, Minimal |
| * Nose                   | Olfactory Epi | Metaplasia            | Minimal             |
| * Pituitary Gland        | Pars Distalis | Hyperplasia           | Minimal             |
| * Spleen                 | White Pulp    | Hyperplasia           | Moderate            |
| * Thyroid Gland          | Follicle      | Degeneration          | Minimal             |
| * Uterus                 | Endometrium   | Hyperplasia           | Cystic, Minimal     |
|                          |               | Infiltration Cellular | Neutrophil, Minimal |

Experiment Number: 03038 - 04  
Test Type: CHRONIC  
Route: DOSED WATER  
Species/Strain: MICE/B6C3F1/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Sodium Tungstate Dihydrate  
CAS Number: 10213-10-2

Date Report Requested: 06/26/2019  
Time Report Requested: 10:11:56  
First Dose M/F: 01/17/12 / 01/16/12  
Lab: BAT

ANIMAL ID: 400

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 2000 mg/L

DISP: Terminal Sacrifice

HISTO: 1400849

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

|                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| Blood Vessel                | * Bone                   | * Bone Marrow              | * Clitoral Gland          |
| * Esophagus                 | * Eye                    | * Gallbladder              | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           |
| * Nose                      | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Salivary Glands        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        | Vagina                     |                           |

OBSERVATIONS

|                   |              |                       |                       |
|-------------------|--------------|-----------------------|-----------------------|
| * Adrenal Cortex  |              | Hypertrophy           | Minimal               |
| * Adrenal Medulla |              | Hyperplasia           | Minimal               |
| * Brain           |              | Polyarteritis Nodosa  | Minimal               |
| * Kidney          |              | Nephropathy           | Chronicprogr, Minimal |
|                   |              | Polyarteritis Nodosa  | Mild                  |
|                   | Renal Tubule | Regeneration          | Minimal               |
| * Liver           |              | Eosinophilic Focus    |                       |
|                   |              | Infiltration Cellular | Mixed Cell, Minimal   |
|                   |              | Mixed Cell Focus      |                       |
| * Uterus          | Endometrium  | Hyperplasia           | Cystic, Mild          |
|                   |              | Polyarteritis Nodosa  | Moderate              |

[ Hyperplasia TGLs = 1-11+12 ]

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