

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

D\_M3

**C Number:** C20515  
**Lock Date:** 01/12/2011  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 2.3.0  
**PWG Approval Date:** NONE

TDMS No. 20515 - 04

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Date Report Requested: 01/21/2011

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 1

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57220

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Liver
- [ Hepatocellular Adenoma TGLs = 3-5 ]
- [ Hepatocellular Carcinoma TGLs = 2-12 ]
- Mesentery
- [ Hemangioma TGLs = 1-6 ]
- \* Nose
- Tooth
- Respirat Epith
- Hyperplasia
- Nephropathy
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Hemangioma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Dysplasia
- Minimal
- Mild
- Minimal
- Multiple
- Mild
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

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Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 2

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57221

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Lymph Node, Bronchial
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Kidney Cyst Mild
- \* Liver Nephropathy Mild
- \* Liver Fatty Change Minimal
- \* Liver Hepatocellular Adenoma Multiple
- \* Lung [ Hepatocellular Adenoma TGLs = 1-5, 2-5 ]
- \* Lung Alveolar/Bronchiolar Adenoma
- \* Lung Alveolar/Bronchiolar Carcinoma
- \* Lung Bronchiole Hyperplasia Minimal
- \* Lung [ Alveolar/Bronchiolar Carcinoma TGLs = 3-4 ] Infiltration Cellular Histiocyte, Mild
- \* Lung [ Infiltration Cellular TGLs = 5-4 ]
- \* Nose Accumulation, Hyaline Droplet Minimal
- \* Nose Olfactory Epi Atrophy Minimal
- \* Nose Respirat Epith Hyperplasia Minimal
- \* Nose Inflammation Suppurative, Minimal
- \* Tooth Dysplasia Minimal

\* PROTOCOL REQUIRED TISSUE





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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 5

TRT#: 1

SEX: Male

DAY ON TEST: 709

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57224

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                            |                          |                           |
|-----------------------------|----------------------------|--------------------------|---------------------------|
| * Adrenal Cortex            | * Bone                     | * Bone Marrow            | * Brain                   |
| * Epididymis                | * Esophagus                | * Eye                    | * Gallbladder             |
| * Heart                     | * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Jejunum | * Islets, Pancreatic     | * Larynx                  |
| * Lymph Node, Mandibular    | * Lymph Node, Mediastinal  | * Pancreas               | * Pituitary Gland         |
| * Preputial Gland           | * Prostate                 | * Salivary Glands        | * Seminal Vesicle         |
| * Spleen                    | * Stomach, Forestomach     | * Stomach, Glandular     | * Testes                  |
| * Thymus                    | * Thyroid Gland            | * Trachea                | * Urinary Bladder         |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |   |            |  |                    |
|---|------------|--|--------------------|
| * Adrenal Medulla                       |            | Pheochromocytoma Benign<br>Pheochromocytoma Malignant<br>Carcinoma |                    |
| * Harderian Gland                       |            |  |                    |
| [ Carcinoma TGLs = 1-11 ]               |            |  |                    |
| * Intestine Small, Ileum                | Epithelium | Hyperplasia  | Moderate           |
| * Kidney                                |            | Nephropathy  | Moderate           |
| * Liver                                 |            | Hepatocellular Carcinoma<br>Necrosis                               | Mild               |
| [ Hepatocellular Carcinoma TGLs = 2-5 ] |            |  |                    |
| * Lung                                  |            | Hepatocellular Carcinoma   | Metastatic (Liver) |
| * Lymph Node, Mesenteric                |            | Sarcoma  |                    |
| [ Sarcoma TGLs = 3-7 ]                  |            |  |                    |
| * Nose                                  |            | Accumulation, Hyaline Droplet                                      | Minimal            |
| * Skin                                  |            | Ulcer  | Moderate           |
| [ Ulcer TGLs = 4-12 ]                   |            |  |                    |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

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Species/Strain: MICE/B6C3F1

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 6

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57225

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 |
| * Islets, Pancreatic      | * Larynx                    | * Lung                   | * Lymph Node, Bronchial    |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

- |                           |                 |                     |
|---------------------------|-----------------|---------------------|
| * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|---------------------------|-----------------|---------------------|

OBSERVATIONS

- |                  |   |                        |          |
|------------------|---|------------------------|----------|
| * Adrenal Cortex |   | Hyperplasia            | Minimal  |
| * Kidney         |   | Nephropathy            | Mild     |
| * Liver          | [ Hepatocellular Adenoma TGLs = 1-6, 2-12, 3-13 ] | Hepatocellular Adenoma | Multiple |
| * Nose           | Glands, Olfactory Epi                             | Hyperplasia            | Minimal  |

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 7

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57226

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Liver
- [ Clear Cell Focus TGLs = 3-6 ]
- [ Hepatocellular Adenoma TGLs = 1-12, 2-13 ]
- \* Nose
- \* Pituitary Gland
- Tooth
- Hyperplasia
- Nephropathy
- Clear Cell Focus
- Fatty Change
- Hepatocellular Adenoma
- Minimal
- Mild
- Mild
- Multiple
- Hyperplasia
- Hyperplasia
- Dysplasia
- Minimal
- Minimal
- Mild





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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 9

TRT#: 1

SEX: Male

DAY ON TEST: 559

DOSE: Control

DISP: Natural Death

HISTO: 57228

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Liver
- \* Pancreas
- \* Prostate
- \* Spleen
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lung
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- [ Congestion TGLs = 2-6 ]
- Lymph Node Lumbar
- [ Infiltration Cellular TGLs = 3-6 ]
- \* Nose
- \* Urinary Bladder
- [ Hemangiosarcoma TGLs = 1-12 ]
- Hyperplasia
- Congestion
- Dilatation
- Nephropathy
- Sarcoma
- Infiltration Cellular
- Hyperplasia
- Hyperplasia
- Hemangiosarcoma
- Minimal
- Minimal
- Moderate
- Minimal
- Mixed Cell, Mild
- Mild
- Minimal

PRIMARY CAUSE OF DEATH - Urinary Bladder Hemangiosarcoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57229

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 |
| * Islets, Pancreatic      | * Larynx                    | * Lung                   | * Lymph Node, Bronchial    |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Testes                    | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

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

OBSERVATIONS

- |                                       |                        |             |
|---------------------------------------|------------------------|-------------|
| * Adrenal Cortex                      | Hyperplasia            | Minimal     |
| * Kidney                              | Nephropathy            | Mild        |
| * Liver                               | Fatty Change           | Mild        |
|                                       | Hepatocellular Adenoma |             |
| [ Hepatocellular Adenoma TGLs = 1-6 ] |                        |             |
| * Nose                                | Respirat Epith         | Hyperplasia |
|                                       |                        | Mild        |

\* PROTOCOL REQUIRED TISSUE

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 11

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57230

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Liver
- [ Clear Cell Focus TGLs = 6-12 ]
- [ Hepatocellular Adenoma TGLs = 7-13 ]
- Lymph Node
- Lumbar
- Renal
- Pancreatic
- [ Lymphoma Malignant TGLs = 4-15 ]
- [ Lymphoma Malignant TGLs = 3-14 ]
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- [ Lymphoma Malignant TGLs = 5-7 ]
- Hyperplasia
- Nephropathy
- Clear Cell Focus
- Eosinophilic Focus
- Hepatocellular Adenoma
- Lymphoma Malignant
- Necrosis
- Tension Lipidosis
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Minimal
- Mild
- Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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**ANIMAL ID:** 11

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** Control

**DISP:** Terminal Sacrifice

**HISTO:** 57230

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Respirat Epith	Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Preputial Gland		Inflammation	Chronic Active, Moderate
	[ Inflammation TGLs = 1-8 ]		
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 2-5 ]		
* Thymus		Lymphoma Malignant	

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 12

TRT#: 1

SEX: Male

DAY ON TEST: 669

DOSE: Control

DISP: Natural Death

HISTO: 57231

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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      |
| * Larynx                    | * Lymph Node, Bronchial  | * Lymph Node, Mesenteric   | * Pancreas                |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                 | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

- |                          |                           |                 |                     |
|--------------------------|---------------------------|-----------------|---------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|--------------------------|---------------------------|-----------------|---------------------|

OBSERVATIONS

- |                  |                |                                |        |
|------------------|----------------|--------------------------------|--------|
| * Adrenal Cortex | Subcapsular    | Adenoma                        |        |
| * Heart          |                | Thrombosis                     | Marked |
| * Kidney         |                | Infarct                        | Mild   |
|                  |                | Nephropathy                    | Mild   |
| * Liver          |                | Necrosis                       | Mild   |
| * Lung           |                | Alveolar/Bronchiolar Carcinoma |        |
| * Nose           | Respirat Epith | Hyperplasia                    | Mild   |

PRIMARY CAUSE OF DEATH - Heart Thrombosis

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

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Species/Strain: MICE/B6C3F1

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CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

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First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 13

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57232

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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 | * Islets, Pancreatic      |
| * Larynx                    | * Liver                  | * Lung                     | * Lymph Node, Bronchial   |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                 | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

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

OBSERVATIONS

- |                         |                |             |         |
|-------------------------|----------------|-------------|---------|
| * Adrenal Cortex        |                | Hyperplasia | Mild    |
| * Harderian Gland       |                | Adenoma     |         |
| [ Adenoma TGLs = 1-11 ] |                |             |         |
| * Kidney                |                | Nephropathy | Mild    |
| * Nose                  | Respirat Epith | Hyperplasia | Mild    |
| Tooth                   |                | Dysplasia   | Minimal |





TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57234

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, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic     |
| * Larynx                  | * Lung                   | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric |
| * Nose                    | * Pancreas               | * Pituitary Gland          | * Preputial Gland        |
| * Prostate                | * Salivary Glands        | * Seminal Vesicle          | * Spleen                 |
| * Stomach, Forestomach    | * Stomach, Glandular     | * Testes                   | * Thymus                 |
| * Thyroid Gland           | * Trachea                | * Urinary Bladder          |                          |

MISSING

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

OBSERVATIONS

- |   |                        |                      |
|---|------------------------|----------------------|
| * Adrenal Cortex                            | Hyperplasia            | Mild                 |
| * Intestine Small, Duodenum                 | Carcinoma              |                      |
| * Kidney                                    | Nephropathy            | Mild                 |
| * Liver                                     | Hepatocellular Adenoma | Multiple             |
| [ Hepatocellular Adenoma TGLs = 1-12, 2-6 ] |                        |                      |
| * Parathyroid Gland                         | Cyst                   | Minimal              |
| * Skin                                      | Inflammation           | Chronic Active, Mild |
| Tooth                                       | Dysplasia              | Minimal              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57235

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Pancreas
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Skin
- \* Thymus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Spleen
- \* Thyroid Gland
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-5 ]
- \* Lung
- \* Nose
- \* Preputial Gland
- \* Stomach, Forestomach
- Tooth
- Hyperplasia
- Fibro-Osseous Lesion
- Nephropathy
- Fatty Change
- Hepatocellular Adenoma
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Ectasia
- Inflammation
- Hyperplasia
- Dysplasia
- Mild
- Mild
- Mild
- Mild
- Minimal
- Minimal
- Chronic Active, Mild
- Squamous, Mild
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57236

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                           |                             |                            |
|---------------------------|---------------------------|-----------------------------|----------------------------|
| * Adrenal Cortex          | * 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, Jejunum |
| * Islets, Pancreatic      | * Larynx                  | * Lymph Node, Bronchial     | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric  | * Nose                      | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland         | * Preputial Gland           | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle         | * Skin                      | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular      | * Testes                    | * Thymus                   |
| * Thyroid Gland           | * Trachea                 | * Urinary Bladder           |                            |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                          |              |                              |                     |
|--------------------------|--------------|------------------------------|---------------------|
| * Intestine Small, Ileum | Peyers Patch | Hyperplasia                  | Lymphoid, Moderate  |
| * Kidney                 |              | Nephropathy                  | Mild                |
| * Liver                  |              | Eosinophilic Focus           |                     |
|                          |              | Fatty Change                 | Focal, Minimal      |
|                          |              | Mixed Cell Focus             |                     |
|                          |              |                              |                     |
|                          |              |                              |                     |
|                          |              |                              |                     |
| * Lung                   |              | Alveolar/Bronchiolar Adenoma |                     |
|                          |              | Infiltration Cellular        | Histiocyte, Minimal |

[ Eosinophilic Focus TGLs = 2-6 ]  
 [ Fatty Change TGLs = 1-6, 3-5, 4-5 ]  
 [ Mixed Cell Focus TGLs = 5-12 ]

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 18

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57237

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Lung
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Kidney Nephropathy Mild
- \* Liver Basophilic Focus Minimal
- Fatty Change Minimal
- Hepatocellular Adenoma
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- \* Nose Respirat Epith Hyperplasia Minimal
- Tooth Dysplasia Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 19

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57238

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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 | * Islets, Pancreatic      |
| * Larynx                    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                |
| * Prostate                  | * Salivary Glands         | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach    | * Stomach, Glandular       | * Testes                  |
| * Thymus                    | * Thyroid Gland           | * Trachea                  | * Urinary Bladder         |

MISSING

- |                         |                          |                 |                     |
|-------------------------|--------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Mammary Gland | * Parathyroid Gland |
|-------------------------|--------------------------|-----------------|---------------------|

OBSERVATIONS

- |                   |                           |                  |                              |
|-------------------|---------------------------|------------------|------------------------------|
| * Adrenal Cortex  |                           | Hyperplasia      | Mild                         |
| * Harderian Gland |                           | Carcinoma        |                              |
|                   | [ Carcinoma TGLs = 2-11 ] |                  |                              |
| * Kidney          |                           | Nephropathy      | Mild                         |
| * Liver           |                           | Basophilic Focus |                              |
|                   |                           | Fatty Change     | Mild                         |
| * Lung            |                           | Carcinoma        | Metastatic (Harderian Gland) |
|                   | Alveolar Epith            | Hyperplasia      | Minimal                      |
|                   | Bronchiole                | Hyperplasia      | Minimal                      |
| * Nose            | Respirat Epith            | Hyperplasia      | Minimal                      |
| * Pituitary Gland | Pars Distalis             | Hyperplasia      | Minimal                      |
| * Preputial Gland |                           | Ectasia          | Mild                         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57239

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Pancreas
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Skin
- \* Testes
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Spleen
- \* Thymus

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Harderian Gland  
[ Adenoma TGLs = 1-11 ]
- \* Kidney
- \* Liver  
[ Eosinophilic Focus TGLs = 2-12 ]
- \* Nose
- \* Preputial Gland
- Tooth
- Respirat Epith
- Adenoma
- Nephropathy
- Eosinophilic Focus
- Fatty Change
- Hyperplasia
- Inflammation
- Dysplasia
- Mild
- Mild
- Minimal
- Mild
- Chronic Active, Mild
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57240

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 |
| * Islets, Pancreatic      | * Larynx                    | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                  |  |                        |                      |
|------------------|--|------------------------|----------------------|
| * Adrenal Cortex | Subcapsular                                  | Adenoma                |                      |
| * Kidney         |  | Nephropathy            | Mild                 |
| * Liver          |  | Basophilic Focus       |                      |
|                  |  | Eosinophilic Focus     |                      |
|                  |  | Fatty Change           | Mild                 |
|                  |  | Hepatocellular Adenoma | Multiple             |
|                  | [ Basophilic Focus TGLs = 4-12 ]             |                        |                      |
|                  | [ Fatty Change TGLs = 3-13 ]                 |                        |                      |
|                  | [ Hepatocellular Adenoma TGLs = 1-15, 2-14 ] |                        |                      |
| * Nose           | Respirat Epith                               | Hyperplasia            | Moderate             |
|                  | Olfactory Epi                                | Metaplasia             | Respiratory, Minimal |
| Tooth            |  | Dysplasia              | Minimal              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 22

TRT#: 1

SEX: Male

DAY ON TEST: 725

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57241

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Heart
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Spleen
- \* Thymus
- \* Bone
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Larynx
- \* Pancreas
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder

MISSING

- \* Adrenal Medulla
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Epididymis
  - \* Intestine Small, Duodenum
  - \* Kidney
  - \* Liver
    - [ Hepatocellular Carcinoma TGLs = 2-6 ]
    - [ Necrosis TGLs = 3-5 ]
  - \* Lung
  - \* Nose
  - \* Preputial Gland
    - [ Ectasia TGLs = 1-8 ]
  - \* Skin
    - [ Inflammation TGLs = 4-12 ]
- Artery  
 Artery  
 Inflammation  
 Infiltration Cellular  
 Inflammation  
 Nephropathy  
 Hepatocellular Carcinoma  
 Necrosis  
 Hepatocellular Carcinoma  
 Hyperplasia  
 Ectasia  
 Inflammation
- Chronic Active, Minimal  
 Lymphocyte, Mild  
 Chronic Active, Moderate  
 Mild  
 Mild  
 Metastatic (Liver)  
 Minimal  
 Moderate  
 Chronic Active, Moderate

PRIMARY CAUSE OF DEATH - Lung Hepatocellular Carcinoma Liver

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 23

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57242

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Larynx                    | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                   |   |                              |                          |
|-------------------|---|------------------------------|--------------------------|
| * Heart           |   | Cardiomyopathy               | Mild                     |
| * Kidney          |   | Nephropathy                  | Mild                     |
| * Liver           |   | Fatty Change                 | Minimal                  |
|                   |   | Hepatocellular Carcinoma     |                          |
|                   | [ Hepatocellular Carcinoma TGLs = 1-6 ] |                              |                          |
| * Lung            |   | Alveolar/Bronchiolar Adenoma |                          |
| * Nose            | Glands, Olfactory Epi                   | Hyperplasia                  | Minimal                  |
| * Preputial Gland |   | Inflammation                 | Chronic Active, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 24

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57243

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                           |
|----------------------------|---------------------------|-----------------------------|---------------------------|
| * Adrenal Cortex           | * 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 | * Larynx                  | * Lymph Node, Mandibular    | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland       |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands         |
| * Seminal Vesicle          | * Skin                    | * Spleen                    | * Stomach, Forestomach    |
| * Stomach, Glandular       | * Testes                  | * Thymus                    | * Thyroid Gland           |
| * Trachea                  | * Urinary Bladder         |                             |                           |

MISSING

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

OBSERVATIONS

- |  |                                |         |
|--|--------------------------------|---------|
| * Islets, Pancreatic                           | Adenoma                        |         |
| * Kidney                                       | Cyst                           | Mild    |
|  | Nephropathy                    | Mild    |
|  |                                |         |
| [ Cyst TGLs = 6-6 ]                            |                                |         |
| * Liver  | Eosinophilic Focus             |         |
|  | Fatty Change                   | Minimal |
|  | Mixed Cell Focus               |         |
|  |                                |         |
| [ Eosinophilic Focus TGLs = 3-6 ]              |                                |         |
| [ Fatty Change TGLs = 4-14 ]                   |                                |         |
| [ Mixed Cell Focus TGLs = 5-15 ]               |                                |         |
| * Lung   | Alveolar/Bronchiolar Carcinoma |         |
| [ Alveolar/Bronchiolar Carcinoma TGLs = 2-12 ] |                                |         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 25

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57244

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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      |
| * Larynx                    | * Lung                   | * Lymph Node, Bronchial    | * Lymph Node, Mandibular  |
| * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Testes                    | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                   |                                       |                        |          |
|-------------------|---------------------------------------|------------------------|----------|
| * Adrenal Cortex  |                                       | Hyperplasia            | Minimal  |
| * Bone            |                                       | Fibro-Osseous Lesion   | Mild     |
| * Kidney          |                                       | Nephropathy            | Mild     |
| * Liver           |                                       | Eosinophilic Focus     |          |
|                   |                                       | Fatty Change           | Minimal  |
|                   |                                       | Hepatocellular Adenoma |          |
|                   | [ Eosinophilic Focus TGLs = 2-6 ]     |                        |          |
|                   | [ Hepatocellular Adenoma TGLs = 3-5 ] |                        |          |
| * Nose            | Respirat Epith                        | Hyperplasia            | Mild     |
| * Preputial Gland |                                       | Ectasia                | Moderate |
|                   | [ Ectasia TGLs = 1-8 ]                |                        |          |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 26

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57245

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * 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 | * Islets, Pancreatic      | * Larynx                    |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Pancreas                | * Parathyroid Gland         |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Testes                    |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

- |                         |                           |                 |
|-------------------------|---------------------------|-----------------|
| * Lymph Node, Bronchial | * Lymph Node, Mediastinal | * Mammary Gland |
|-------------------------|---------------------------|-----------------|

OBSERVATIONS

- |                   |   |                                |                  |
|-------------------|---|--------------------------------|------------------|
| * Adrenal Cortex  |   | Hyperplasia                    | Minimal          |
| * Bone            |   | Fibro-Osseous Lesion           | Minimal          |
| * Harderian Gland |   | Adenoma                        |                  |
| * Kidney          |   | Nephropathy                    | Mild             |
| * Liver           |   | Fatty Change                   | Mild             |
| * Lung            |   | Alveolar/Bronchiolar Carcinoma |                  |
|                   |   | Infiltration Cellular          | Histiocyte, Mild |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ] |                                |                  |
| * Nose            | Glands, Olfactory Epi                         | Hyperplasia                    | Minimal          |
| * Pituitary Gland | Pars Distalis                                 | Hyperplasia                    | Minimal          |
| * Preputial Gland |   | Ectasia                        | Minimal          |
|                   | [ Ectasia TGLs = 1-8 ]                        |                                |                  |
| Tooth             |   | Dysplasia                      | Minimal          |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 27

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57246

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland

- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Skin
- \* Testes
- \* Urinary Bladder

- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Spleen
- \* Thymus

**MISSING**

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Mammary Gland

**OBSERVATIONS**

- \* Adrenal Cortex
- \* Kidney

Subcapsular

Adenoma

Cyst

Minimal

Nephropathy

Mild

- \* Liver

Fatty Change

Mild

Hepatocellular Adenoma

Multiple

[ Hepatocellular Adenoma TGLs = 2-5 ]

- \* Lung

Alveolar/Bronchiolar Carcinoma

[ Alveolar/Bronchiolar Carcinoma TGLs = 3-4 ]

- \* Nose

Respirat Epith

Hyperplasia

Mild

- \* Preputial Gland

Ectasia

Moderate

[ Ectasia TGLs = 1-8 ]

Tooth

Dysplasia

Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 725

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57247

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Parathyroid Gland
- \* Salivary Glands
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Preputial Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Brain
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Larynx
- \* Prostate
- \* Testes

MISSING

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

OBSERVATIONS

- \* Adrenal Cortex
    - Capsule
  - \* Heart
    - [ Carcinoma TGLs = 5-5 ]
  - \* Kidney
    - [ Carcinoma TGLs = 6-6 ]
  - \* Liver
    - [ Hepatocellular Carcinoma TGLs = 1-5, 12-5 ]
  - \* Lung
    - [ Carcinoma TGLs = 2-4 ]
    - [ Hepatocellular Carcinoma TGLs = 3-4, 11-4 ]
  - Lymph Node
    - Lumbar
    - Renal
    - [ Lymphoma Malignant TGLs = 8-12 ]
    - [ Lymphoma Malignant TGLs = 7-6 ]
  - \* Lymph Node, Bronchial
  - \* Lymph Node, Mediastinal
- Hyperplasia
  - Inflammation
  - Carcinoma
  - Carcinoma
  - Hepatocellular Carcinoma
  - Lymphoma Malignant
  - Carcinoma
  - Hepatocellular Carcinoma
  - Lymphoma Malignant
  - Lymphoma Malignant
  - Infiltration Cellular
  - Carcinoma
  - Lymphoma Malignant
- Minimal
  - Chronic Active, Moderate
  - Metastatic (Stomach, Glandular)
  - Metastatic (Stomach, Glandular)
  - Multiple
  - Metastatic (Stomach, Glandular)
  - Metastatic (Liver)
  - Polymorphnuclr, Mild
  - Metastatic (Stomach, Glandular)

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 725

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57247

ORGAN AND ACCOUNTABLE SITE STATUS

[ Carcinoma TGLs = 4-3 ]

\* Lymph Node, Mesenteric

Carcinoma

Metastatic (Stomach, Glandular)

Fibrosis

Marked

[ Fibrosis TGLs = 9-13 ]

\* Nose

Inflammation

Suppurative, Minimal

\* Pancreas

Carcinoma

Metastatic (Stomach, Glandular)

Fibrosis

Marked

[ Fibrosis TGLs = 9-13 ]

\* Skin

Carcinoma

Metastatic (Stomach, Glandular)

[ Carcinoma TGLs = 10-14 ]

\* Spleen

Lymphoma Malignant

\* Stomach, Glandular

Carcinoma

[ Carcinoma TGLs = 13-9 ]

\* Thymus

Carcinoma

Metastatic (Stomach, Glandular)

PRIMARY CAUSE OF DEATH

- Stomach, Glandular Carcinoma

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 29

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57248

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Larynx                    | * Lymph Node, Bronchial  | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                   |                |                      |         |
|-------------------|----------------|----------------------|---------|
| * Bone            |                | Fibro-Osseous Lesion | Minimal |
| * Kidney          |                | Nephropathy          | Mild    |
| * Liver           |                | Eosinophilic Focus   |         |
|                   |                | Fatty Change         | Minimal |
| * Lung            | Alveolar Epith | Hyperplasia          | Minimal |
| * Nose            | Respirat Epith | Hyperplasia          | Mild    |
| * Preputial Gland |                | Ectasia              | Mild    |
| Tooth             |                | Dysplasia            | Minimal |

\* PROTOCOL REQUIRED TISSUE





TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 31

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57250

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 |
| * Islets, Pancreatic      | * Larynx                    | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        |
| * Pituitary Gland         | * Preputial Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

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

OBSERVATIONS

- |                  |   |                        |          |
|------------------|---|------------------------|----------|
| * Adrenal Cortex |   | Hyperplasia            | Minimal  |
| * Kidney         |   | Nephropathy            | Mild     |
| * Liver          | [ Hepatocellular Adenoma TGLs = 1-6, 2-12, 3-13 ] | Hepatocellular Adenoma | Multiple |
| * Nose           | Respirat Epith                                    | Hyperplasia            | Mild     |
| * Spleen         |   | Lymphoma Malignant     |          |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 33

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57252

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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 | * Islets, Pancreatic      | * Larynx                    | * Lung                   |
| * Lymph Node, Bronchial    | * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Testes                   | * Thyroid Gland           | * Urinary Bladder           |                          |

MISSING

- \* Thymus

OBSERVATIONS

- |           |                               |                      |
|-----------|-------------------------------|----------------------|
| * Kidney  | Nephropathy                   | Mild                 |
| * Liver   | Clear Cell Focus              |                      |
| * Nose    | Accumulation, Hyaline Droplet | Minimal              |
|           | Respirat Epith                | Mild                 |
|           | Glands, Olfactory Epi         | Minimal              |
|           | Olfactory Epi                 | Respiratory, Minimal |
| * Trachea | Metaplasia                    | Squamous, Minimal    |
|           | Metaplasia                    |                      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 34

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57253

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 |
| * Islets, Pancreatic      | * Larynx                    | * Liver                  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thymus                    | * Thyroid Gland          | * Urinary Bladder          |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                  |   |                                |                          |
|------------------|---|--------------------------------|--------------------------|
| * Adrenal Cortex | Subcapsular                                   | Adenoma                        |                          |
|                  |   | Hyperplasia                    | Minimal                  |
| * Kidney         |   | Nephropathy                    | Mild                     |
| * Lung           |   | Alveolar/Bronchiolar Carcinoma |                          |
|                  |   | Infiltration Cellular          | Histiocyte, Mild         |
|                  | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ] |                                |                          |
| * Nose           |   | Accumulation, Hyaline Droplet  | Minimal                  |
|                  | Respirat Epith                                | Hyperplasia                    | Mild                     |
|                  |   | Inflammation                   | Suppurative, Mild        |
| Tooth            |   | Dysplasia                      | Mild                     |
|                  |   | Inflammation                   | Chronic Active, Moderate |
| * Trachea        |   | Metaplasia                     | Squamous, Minimal        |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 35

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57254

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Larynx
- \* Pituitary Gland
- \* Skin
- \* Thymus
- \* Adrenal Medulla
- \* Epididymis
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Prostate
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Gallbladder
- \* Intestine Small, Ileum
- \* Kidney
- \* Liver
- \* Lymph Node, Mesenteric  
[ Lymphoma Malignant TGLs = 1-7 ]
- \* Nose
- \* Preputial Gland
- \* Spleen
- Inflammation
- Lymphoma Malignant
- Nephropathy
- Fatty Change
- Hepatodiaphragmatic Nodule
- Lymphoma Malignant
- Hyperplasia
- Hyperplasia
- Ectasia
- Lymphoma Malignant
- Suppurative, Minimal
- Mild
- Minimal
- Mild
- Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 36

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57255

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Seminal Vesicle
- \* Testes
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Preputial Gland
- \* Skin
- \* Thyroid Gland
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Spleen
- \* Trachea
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Eye
- \* Harderian Gland
- [ Adenoma TGLs = 1-11 ]
- \* Kidney
- \* Liver
- [ Basophilic Focus TGLs = 5-5 ]
- [ Hepatocellular Adenoma TGLs = 3-5, 4-6 ]
- \* Lung
- \* Nose
- Respirat Epith
- Glands, Olfactory Epi
- Pars Distalis
- \* Pituitary Gland
- \* Stomach, Forestomach
- Hyperplasia
- Degeneration
- Adenoma
- Nephropathy
- Basophilic Focus
- Hepatocellular Adenoma
- Tension Lipidosis
- Alveolar/Bronchiolar Adenoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Necrosis
- Hyperplasia
- Hyperplasia
- Inflammation
- Minimal
- Mild
- Mild
- Multiple
- Minimal
- Minimal
- Minimal
- Suppurative, Mild
- Minimal
- Minimal
- Squamous, Marked
- Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

---

**ANIMAL ID:** 36

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** Control

**DISP:** Terminal Sacrifice

**HISTO:** 57255

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dysplasia  
Inflammation

Moderate  
Chronic Active, Moderate

---



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 694

DOSE: Control

DISP: Natural Death

HISTO: 57256

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Adrenal Medulla
- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland

AUTO PRECLUDES DIAG.

- \* Gallbladder

INSUFFICIENT TISSUE

- \* Adrenal Cortex

OBSERVATIONS

- \* Liver
  - [ Hepatocellular Carcinoma TGLs = 5-13, 6-12 ]
  - Mesentery
    - [ Hepatocellular Carcinoma TGLs = 7-14 ]
- \* Nose
  - Glands, Olfactory Epi
- \* Skin
  - [ Melanoma Benign TGLs = 1-15 ]
- \* Testes
  - Germinal Epith

- Hepatocellular Carcinoma Multiple
- Hepatocellular Carcinoma Metastatic (Liver)
- Hyperplasia Minimal
- Melanoma Benign
- Atrophy Mild

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 38

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57257

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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      |
| * Larynx                    | * Lung                   | * Lymph Node, Bronchial    | * Lymph Node, Mandibular  |
| * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                  |   |                          |                      |
|------------------|---|--------------------------|----------------------|
| * Adrenal Cortex |   | Hyperplasia              | Minimal              |
| * Bone           | Cranium                                 | Inflammation             | Chronic Active, Mild |
| * Kidney         |   | Metaplasia               | Osseous, Minimal     |
|                  |   | Nephropathy              | Mild                 |
| * Liver          |   | Fatty Change             | Minimal              |
|                  |   | Hepatocellular Carcinoma |                      |
|                  | [ Hepatocellular Carcinoma TGLs = 1-6 ] |                          |                      |
| Tooth            |   | Dysplasia                | Minimal              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57258

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Harderian Gland
- \* Islets, Pancreatic
- \* Kidney
- \* Liver
- [ Eosinophilic Focus TGLs = 5-13 ]
- [ Fatty Change TGLs = 3-12 ]
- [ Hepatocellular Adenoma TGLs = 2-5 ]
- \* Lung
- \* Lymph Node, Mesenteric
- \* Nose
- \* Spleen
- Tooth
- Bronchiole
- Olfactory Epi
- Hyperplasia
- Carcinoma
- Adenoma
- Carcinoma
- Cyst
- Nephropathy
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Minimal
- Metastatic (Harderian Gland)
- Mild
- Mild
- Minimal
- Minimal
- Hyperplasia
- Lymphoma Malignant
- Metaplasia
- Lymphoma Malignant
- Inflammation
- Minimal
- Respiratory, Mild
- Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57258

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Trachea

Metaplasia

Squamous, Minimal

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 40

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57259

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Gallbladder             | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Liver                  | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Pancreas                  |
| Peripheral Nerve         | * Pituitary Gland          | * Preputial Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | Skeletal Muscle           | * Skin                      |
| Spinal Cord              | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Testes                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

- |                         |                          |                 |                     |
|-------------------------|--------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Mammary Gland | * Parathyroid Gland |
| * Thymus                |                          |                 |                     |

OBSERVATIONS

- |                           |                 |              |                      |
|---------------------------|-----------------|--------------|----------------------|
| * Adrenal Cortex          |                 | Hyperplasia  | Minimal              |
| Blood Vessel              | Aorta           | Inflammation | Chronic Active, Mild |
| * Eye                     |                 | Atrophy      | Marked               |
| [ Atrophy TGLs = 2-11 ]   |                 |              |                      |
| * Harderian Gland         |                 | Carcinoma    |                      |
| [ Carcinoma TGLs = 1-11 ] |                 |              |                      |
| * Kidney                  |                 | Nephropathy  | Mild                 |
| * Lung                    | Interstitialium | Inflammation | Chronic Active, Mild |
|                           |                 | Thrombosis   | Minimal              |
| * Nose                    | Respirat Epith  | Hyperplasia  | Mild                 |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 41

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57260

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Spleen
- \* Thyroid Gland
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mesenteric
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex Subcapsular Adenoma
- \* Eye Cornea Vacuolization Cytoplasmic TGLs = 1-11 ] Minimal
- \* Harderian Gland [ Vacuolization Cytoplasmic TGLs = 1-11 ] Carcinoma Multiple
- \* Kidney [ Carcinoma TGLs = 2-11, 3-11 ] Nephropathy Mild
- \* Liver Basophilic Focus
- Eosinophilic Focus
- Fatty Change Minimal
- Hepatocellular Adenoma Multiple
- [ Eosinophilic Focus TGLs = 6-6 ]
- [ Hepatocellular Adenoma TGLs = 4-5, 5-5 ]
- \* Nose Respirat Epith Hyperplasia Mild
- Inflammation Suppurative, Minimal
- \* Preputial Gland Inflammation Chronic Active, Moderate
- \* Stomach, Glandular Erosion Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 42

TRT#: 1

SEX: Male

DAY ON TEST: 724

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57261

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Pancreas
- \* Prostate
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Kidney Nephropathy Mild
- \* Liver Hepatocellular Adenoma Multiple  
[ Hepatocellular Adenoma TGLs = 4-5, 5-12 ]
- \* Lung Bronchiole Hyperplasia Minimal
- Lymph Node Renal Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 6-13, 7-13 ]
- \* Lymph Node, Bronchial Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 9-4 ]
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 8-7 ]
- Mesentery Lymphoma Malignant
- \* Nose Respirat Epith Hyperplasia Mild  
Glands, Olfactory Epi Hyperplasia Minimal
- \* Thymus Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 3-3 ]

PRIMARY CAUSE OF DEATH - Thymus Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 43

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57262

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                            |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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 |
| * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland         | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle         | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular      | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                   |                              |             |
|-------------------|------------------------------|-------------|
| * Harderian Gland | Adenoma                      |             |
| * Kidney          | Nephropathy                  | Mild        |
| * Liver           | Fatty Change                 | Minimal     |
| * Lung            | Alveolar/Bronchiolar Adenoma |             |
| * Nose            | Respirat Epith               | Hyperplasia |
|                   |                              | Minimal     |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 44

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57263

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 |
| * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Bronchial  | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                   |             |              |                         |
|-------------------|-------------|--------------|-------------------------|
| * Adrenal Cortex  | Subcapsular | Adenoma      | Multiple                |
|                   |             | Hyperplasia  | Mild                    |
| * Kidney          |             | Nephropathy  | Mild                    |
| * Liver           |             | Fatty Change | Minimal                 |
| * Lung            | Bronchiole  | Hyperplasia  | Minimal                 |
| * Preputial Gland |             | Inflammation | Chronic Active, Minimal |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 45

TRT#: 1

SEX: Male

DAY ON TEST: 541

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57264

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* 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
- \* Islets, Pancreatic
- \* Larynx
- \* Lymph Node, Bronchial
- \* Lymph Node, Mesenteric
- \* Nose
- \* Pancreas
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Kidney Nephropathy Minimal
- \* Liver Hepatocellular Adenoma
- [ Hepatocellular Adenoma TGLs = 7-5 ]
- \* Lung Alveolar/Bronchiolar Carcinoma Multiple
- Bronchiole Hyperplasia Minimal
- [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4, 5-4 ]
- \* Lymph Node, Mediastinal Alveolar/Bronchiolar Carcinoma Metastatic (Lung)
- [ Alveolar/Bronchiolar Carcinoma TGLs = 6-3 ]
- Pleura Alveolar/Bronchiolar Carcinoma Metastatic (Lung)
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-6 ]

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 46

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57265

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Harderian Gland
- [ Adenoma TGLs = 1-11 ]
- \* Kidney
- \* Liver
- \* Lung
- \* Nose
- Tooth
- Hyperplasia
- Adenoma
- Nephropathy
- Eosinophilic Focus
- Fatty Change
- Bronchiole
- Respirat Epith
- Glands, Olfactory Epi
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Dysplasia
- Mild
- Mild
- Minimal
- Minimal
- Moderate
- Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57266

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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 | * Islets, Pancreatic      |
| * Larynx                    | * Lung                   | * Lymph Node, Bronchial    | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          | * Preputial Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Testes                  |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

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

OBSERVATIONS

- |                          |                         |                        |          |
|--------------------------|-------------------------|------------------------|----------|
| * Adrenal Cortex         |                         | Hyperplasia            | Minimal  |
| * Harderian Gland        |                         | Hyperplasia            | Marked   |
| * Kidney                 |                         | Infarct                | Mild     |
|                          |                         | Nephropathy            | Mild     |
| * Liver                  |                         | Fatty Change           | Minimal  |
|                          |                         | Hepatocellular Adenoma | Multiple |
| [ Hepatocellular Adenoma | TGLs = 1-5, 2-12, 3-5 ] |                        |          |
| * Nose                   | Respirat Epith          | Hyperplasia            | Mild     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57267

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Skin
- \* Testes
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Spleen
- \* Thyroid Gland
- \* Epididymis
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Larynx
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Heart
- \* Kidney
- \* Liver
  - [ Basophilic Focus TGLs = 1-6 ]
- \* Lung
- \* Nose
- \* Preputial Gland
- Tooth
- Cranium
- Bronchiole
- Perivascular
- Turbinate
- Glands, Olfactory Epi
- Hyperplasia
- Inflammation
- Cardiomyopathy
- Nephropathy
- Basophilic Focus
- Hyperplasia
- Inflammation
- Accumulation, Hyaline Droplet
- Atrophy
- Hyperplasia
- Inflammation
- Necrosis
- Inflammation
- Dysplasia
- Minimal
- Chronic Active, Moderate
- Mild
- Mild
- Minimal
- Chronic Active, Moderate
- Minimal
- Mild
- Minimal
- Suppurative, Minimal
- Minimal
- Chronic Active, Minimal
- Marked

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 49

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57268

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 |
| * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Bronchial  | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Testes                    | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

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

OBSERVATIONS

- |                          |                   |                        |                         |
|--------------------------|-------------------|------------------------|-------------------------|
| * Adrenal Cortex         | Subcapsular       | Adenoma                |                         |
| * Kidney                 |                   | Nephropathy            | Mild                    |
| * Liver                  |                   | Hepatocellular Adenoma | Multiple                |
| [ Hepatocellular Adenoma | TGLs = 1-6, 2-5 ] |                        |                         |
| * Lung                   | Alveolar Epith    | Hyperplasia            | Mild                    |
|                          | Bronchiole        | Hyperplasia            | Minimal                 |
| * Nose                   | Respirat Epith    | Hyperplasia            | Minimal                 |
| * Pituitary Gland        | Pars Distalis     | Cyst                   | Minimal                 |
| * Preputial Gland        |                   | Inflammation           | Chronic Active, Mild    |
| * Stomach, Glandular     |                   | Inflammation           | Chronic Active, Minimal |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

**ANIMAL ID:** 50

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** Control

**DISP:** Terminal Sacrifice

**HISTO:** 57269

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

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

**MISSING**

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

**OBSERVATIONS**

- |                   |  |                               |          |
|-------------------|--|-------------------------------|----------|
| * Adrenal Cortex  | Subcapsular                                | Adenoma                       |          |
| * Eye             | Cornea                                     | Vacuolization Cytoplasmic     | Minimal  |
|                   | [ Vacuolization Cytoplasmic TGLs = 1-11 ]  |                               |          |
| * Harderian Gland |  | Adenoma                       |          |
|                   | [ Adenoma TGLs = 2-11 ]                    |                               |          |
| * Kidney          |  | Nephropathy                   | Mild     |
| * Liver           |  | Hepatocellular Adenoma        | Multiple |
|                   | [ Hepatocellular Adenoma TGLs = 3-5, 4-5 ] |                               |          |
| * Nose            |  | Accumulation, Hyaline Droplet | Minimal  |
|                   | Respirat Epith                             | Hyperplasia                   | Minimal  |
|                   | Glands, Olfactory Epi                      | Hyperplasia                   | Minimal  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 201

TRT#: 3

SEX: Male

DAY ON TEST: 713

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57520

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- \* Spleen
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Peripheral Nerve
- \* Skin
- \* Testes
- \* Urinary Bladder
- \* Epididymis
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Spinal Cord
- \* Thymus

MISSING

- \* Lymph Node, Bronchial
- \* Prostate
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Heart
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Seminal Vesicle
- \* Skeletal Muscle
- \* Stomach, Forestomach
- Epiglottis
- Hyperplasia
- Fibro-Osseous Lesion
- Cardiomyopathy
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Alveolar/Bronchiolar Carcinoma
- Hepatocellular Carcinoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Adenoma
- Infiltration Cellular
- Hyperplasia
- Mild
- Minimal
- Mild
- Minimal
- Minimal
- Squamous, Minimal
- Metastatic (Liver)
- Minimal
- Minimal
- Lymphocyte, Minimal
- Squamous, Mild

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 202

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57521

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Gallbladder
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatoblastoma TGLs = 1-5 ]
- \* Lung
- [ Alveolar/Bronchiolar Carcinoma TGLs = 2-12 ]
- \* Nose
- Tooth
- Hyperplasia
- Nephropathy
- Metaplasia
- Fatty Change
- Hepatoblastoma
- Alveolar/Bronchiolar Carcinoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Dysplasia
- Minimal
- Mild
- Squamous, Minimal
- Mild
- Minimal
- Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 203

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57522

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 |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                   |   |                               |                   |
|-------------------|---|-------------------------------|-------------------|
| * Adrenal Cortex  |   | Hyperplasia                   | Minimal           |
| * Kidney          |   | Nephropathy                   | Mild              |
| * Larynx          |   | Metaplasia                    | Squamous, Minimal |
| * Liver           | [ Hepatocellular Adenoma TGLs = 1-12, 2-5 ] | Hepatocellular Adenoma        | Multiple          |
| * Lung            | Bronchiole                                  | Hyperplasia                   | Minimal           |
| * Nose            |   | Accumulation, Hyaline Droplet | Minimal           |
|                   | Respirat Epith                              | Hyperplasia                   | Mild              |
|                   |   | Inflammation                  | Suppurative, Mild |
| * Preputial Gland |   | Ectasia                       | Mild              |
|                   | [ Ectasia TGLs = 3-8 ]                      |                               |                   |
| Tooth             |   | Dysplasia                     | Mild              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 204

TRT#: 3

SEX: Male

DAY ON TEST: 647

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57523

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Brain
  - \* Kidney
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Carcinoma TGLs = 7-12 ]
  - \* Lung
    - [ Hepatocellular Carcinoma TGLs = 1-4, 2-4, 3-4, 4-4, 5-4, 6-4 ]
  - \* Nose
    - Respirat Epith
    - Tissue NOS
    - Mediastinum
- Hyperplasia  
Infiltration Cellular  
Nephropathy  
Metaplasia  
Hepatocellular Carcinoma  
  
Hepatocellular Carcinoma  
  
Accumulation, Hyaline Droplet  
Hyperplasia  
Hepatocellular Carcinoma
- Mild  
Lymphoid, Minimal  
Mild  
Squamous, Minimal  
  
Metastatic (Liver)  
  
Mild  
Mild  
Metastatic (Liver)

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 205

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57524

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 |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                  |                |                               |                   |
|------------------|----------------|-------------------------------|-------------------|
| * Adrenal Cortex |                | Hyperplasia                   | Minimal           |
| * Kidney         |                | Lymphoma Malignant            |                   |
|                  |                | Nephropathy                   | Mild              |
| * Larynx         |                | Metaplasia                    | Squamous, Minimal |
| * Liver          |                | Fatty Change                  | Minimal           |
| * Nose           |                | Accumulation, Hyaline Droplet | Minimal           |
|                  | Respirat Epith | Hyperplasia                   | Minimal           |
|                  |                | Inflammation                  | Suppurative, Mild |
| * Spleen         |                | Lymphoma Malignant            |                   |
| Tooth            |                | Dysplasia                     | Moderate          |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 206

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57525

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* 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
- \* Islets, Pancreatic
- \* Lung
- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Kidney
- Nephropathy
- Moderate
- \* Larynx
- Metaplasia
- Squamous, Minimal
- \* Liver
- Cyst
- Moderate
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- [ Cyst TGLs = 3-12 ]
- [ Hepatocellular Adenoma TGLs = 1-5 ]
- [ Hepatocellular Carcinoma TGLs = 2-5 ]
- \* Nose
- Respirat Epith
- Hyperplasia
- Mild

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 207

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57526

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Bone
- Cranium
- Inflammation
- Chronic Active, Moderate
- \* Kidney
- Nephropathy
- Mild
- \* Larynx
- Metaplasia
- Squamous, Minimal
- \* Liver
- Basophilic Focus
- Hepatocellular Adenoma
- [ Basophilic Focus TGLs = 3-12 ]
- [ Hepatocellular Adenoma TGLs = 4-5 ]
- \* Lung
- Alveolar/Bronchiolar Carcinoma
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ]
- \* Nose
- Accumulation, Hyaline Droplet
- Mild
- Respirat Epith
- Hyperplasia
- Mild
- Glands, Olfactory Epi
- Hyperplasia
- Minimal
- \* Pituitary Gland
- Pars Distalis
- Inflammation
- Suppurative, Mild
- Tooth
- Hyperplasia
- Minimal
- Dysplasia
- Mild
- Inflammation
- Chronic Active, Marked

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 208

TRT#: 3

SEX: Male

DAY ON TEST: 662

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57527

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* 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
- \* Islets, Pancreatic
- \* Liver
- \* Lung
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thyroid Gland
- \* Urinary Bladder

MISSING

- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Kidney
  - Capsule
  - Fibrosis
  - Minimal
  - Nephropathy
  - Minimal
  - Metaplasia
  - Squamous, Minimal
  - Lymph Node
    - Renal
    - Lymphoma Malignant
    - Lumbar
    - Lymphoma Malignant
  - [ Lymphoma Malignant TGLs = 6-12 ]
  - [ Lymphoma Malignant TGLs = 7-13 ]
  - \* Lymph Node, Bronchial
    - Lymphoma Malignant
    - [ Lymphoma Malignant TGLs = 2-4 ]
  - \* Lymph Node, Mediastinal
    - Lymphoma Malignant
    - [ Lymphoma Malignant TGLs = 3-3 ]
  - \* Lymph Node, Mesenteric
    - Lymphoma Malignant
    - [ Lymphoma Malignant TGLs = 8-14 ]
  - \* Nose
    - Accumulation, Hyaline Droplet
    - Mild
    - Hyperplasia
    - Minimal
    - Inflammation
    - Chronic Active, Moderate
    - Ulcer
    - Moderate
  - \* Skin
    - Respirat Epith
    - [ Ulcer TGLs = 1-15 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 208

TRT#: 3

SEX: Male

DAY ON TEST: 662

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57527

ORGAN AND ACCOUNTABLE SITE STATUS

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 5-5 ]

\* Trachea

Metaplasia

Squamous, Minimal

PRIMARY CAUSE OF DEATH

- Spleen Lymphoma Malignant



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 209

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57528

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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 | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Preputial Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Testes                  |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- |                 |        |
|-----------------|--------|
| * Mammary Gland | * Skin |
|-----------------|--------|

OBSERVATIONS

- |                   |                         |                               |                   |
|-------------------|-------------------------|-------------------------------|-------------------|
| * Adrenal Cortex  |                         | Hyperplasia                   | Minimal           |
| * Harderian Gland |                         | Adenoma                       |                   |
|                   | [ Adenoma TGLs = 1-11 ] |                               |                   |
| * Kidney          |                         | Nephropathy                   | Mild              |
| * Larynx          | Epiglottis              | Fibrosis                      | Minimal           |
|                   |                         | Metaplasia                    | Squamous, Minimal |
| * Liver           |                         | Fatty Change                  | Minimal           |
| * Nose            |                         | Accumulation, Hyaline Droplet | Mild              |
|                   | Respirat Epith          | Hyperplasia                   | Mild              |
|                   | Glands, Olfactory Epi   | Hyperplasia                   | Minimal           |
| Tooth             |                         | Dysplasia                     | Mild              |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 210

TRT#: 3

SEX: Male

DAY ON TEST: 706

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57529

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea
- \* Adrenal Medulla
- \* Epididymis
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Spleen
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Mammary Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-13 ]
- [ Hepatocellular Carcinoma TGLs = 2-12 ]
- \* Lung
- \* Lymph Node, Mesenteric
- \* Nose
- \* Pancreas
- Tooth
- Nephropathy
- Fibrosis
- Metaplasia
- Angiectasis
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Necrosis
- Hepatocellular Carcinoma
- Hemorrhage
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hypertrophy
- Dysplasia
- Moderate
- Minimal
- Squamous, Minimal
- Mild
- Mild
- Moderate
- Metastatic (Liver)
- Mild
- Mild
- Mild
- Mild
- Moderate

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 211

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57530

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Spleen
- \* Thymus
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- [ Basophilic Focus TGLs = 1-17 ]
- [ Clear Cell Focus TGLs = 8-12, 3-13 ]
- [ Eosinophilic Focus TGLs = 2-16 ]
- [ Hepatocellular Adenoma TGLs = 5-14 ]
- \* Lung
- Bronchiole
- Perivascular
- [ Alveolar/Bronchiolar Carcinoma TGLs = 6-4 ]
- [ Infiltration Cellular TGLs = 7-4 ]
- Nephropathy
- Metaplasia
- Basophilic Focus
- Clear Cell Focus
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Alveolar/Bronchiolar Adenoma
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Infiltration Cellular
- Inflammation
- Mild
- Squamous, Minimal
- Mild
- Multiple
- Minimal
- Histiocyte, Moderate
- Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 211

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57530

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose		Accumulation, Hyaline Droplet	Minimal
	Respirat Epith	Hyperplasia	Mild
* Trachea		Metaplasia	Squamous, Minimal

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 212

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57531

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                        |   |                                  |                          |
|------------------------|---|----------------------------------|--------------------------|
| * Adrenal Cortex       |   | Hyperplasia                      | Minimal                  |
| * Kidney               | Artery  | Inflammation                     | Chronic Active, Moderate |
|                        |   | Nephropathy                      | Moderate                 |
| * Larynx               | Epiglottis                                      | Fibrosis                         | Minimal                  |
|                        |   | Metaplasia                       | Squamous, Minimal        |
| * Liver                |   | Hepatocellular Carcinoma         |                          |
|                        |   | Necrosis                         | Mild                     |
|                        | [ Hepatocellular Carcinoma TGLs = 2-5 ]         |                                  |                          |
| * Lung                 |   | Hepatocellular Carcinoma         | Metastatic (Liver)       |
| * Nose                 |   | Accumulation, Hyaline Droplet    | Mild                     |
|                        | Respirat Epith                                  | Hyperplasia                      | Mild                     |
| * Spleen               |   | Hematopoietic Cell Proliferation | Mild                     |
|                        | [ Hematopoietic Cell Proliferation TGLs = 1-5 ] |                                  |                          |
| * Stomach, Forestomach |   | Inflammation                     | Chronic Active, Mild     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 213

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57532

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Nose
- \* Pituitary Gland
- Tooth
- \* Trachea
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 1-5 ]
- Respirat Epith Glands, Olfactory Epi Pars Distalis
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Dysplasia
- Metaplasia
- Mild
- Mild
- Minimal
- Squamous, Minimal
- Mild
- Minimal
- Minimal
- Minimal
- Squamous, Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 214

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57533

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 |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland         | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle         | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular      | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                  |                |                               |                   |
|------------------|----------------|-------------------------------|-------------------|
| * Adrenal Cortex |                | Hyperplasia                   | Minimal           |
| * Kidney         |                | Cyst                          | Minimal           |
|                  |                | Nephropathy                   | Mild              |
| * Larynx         | Epiglottis     | Fibrosis                      | Minimal           |
|                  |                | Metaplasia                    | Squamous, Minimal |
| * Liver          |                | Clear Cell Focus              |                   |
|                  |                | Fatty Change                  | Minimal           |
| * Lung           | Bronchiole     | Hyperplasia                   | Minimal           |
| * Nose           |                | Accumulation, Hyaline Droplet | Minimal           |
|                  | Respirat Epith | Hyperplasia                   | Mild              |
|                  | Respirat Epith | Metaplasia                    | Squamous, Minimal |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 215

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57534

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Harderian Gland
- [ Adenoma TGLs = 1-11 ]
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- [ Alveolar/Bronchiolar Carcinoma
- \* Nose
- TGLs = 2-4 ]
- Respirat Epith
- Glands, Olfactory Epi
- Respirat Epith
- Hyperplasia
- Adenoma
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Metaplasia
- Minimal
- Mild
- Minimal
- Squamous, Minimal
- Mild
- Minimal
- Minimal
- Squamous, Minimal

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 216

TRT#: 3

SEX: Male

DAY ON TEST: 590

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57535

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone [ Fracture TGLs = 1-12 ]
- \* Epididymis
- \* Kidney
- \* Larynx
- \* Liver [ Hepatocellular Adenoma TGLs = 3-5 ]  
[ Hepatocellular Carcinoma TGLs = 2-13 ]
- \* Lung
- \* Nose
- \* Stomach, Forestomach
- Joint, Vertebra
- Epiglottis
- Hyperplasia
- Fracture
- Inflammation
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Bronchiole
- Respirat Epith
- Respirat Epith
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Metaplasia
- Inflammation
- Minimal
- Minimal
- Chronic Active, Moderate
- Minimal
- Minimal
- Squamous, Minimal
- Minimal
- Mild
- Minimal
- Suppurative, Minimal
- Squamous, Minimal
- Chronic Active, Moderate

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 217

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57536

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                            |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Bronchial     | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland         | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle         | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular      | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Urinary Bladder         |                            |

MISSING

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

OBSERVATIONS

- |           |                             |                               |                      |
|-----------|-----------------------------|-------------------------------|----------------------|
| * Bone    |                             | Fibro-Osseous Lesion          | Minimal              |
| * Kidney  |                             | Nephropathy                   | Mild                 |
| * Larynx  | Epiglottis                  | Fibrosis                      | Minimal              |
|           |                             | Inflammation                  | Chronic Active, Mild |
|           |                             | Metaplasia                    | Squamous, Minimal    |
| * Liver   |                             | Basophilic Focus              |                      |
|           |                             | Fatty Change                  | Mild                 |
|           | [ Fatty Change TGLs = 1-5 ] |                               |                      |
| * Lung    | Bronchiole                  | Hyperplasia                   | Minimal              |
| * Nose    |                             | Accumulation, Hyaline Droplet | Minimal              |
|           | Respirat Epith              | Hyperplasia                   | Mild                 |
|           | Glands, Olfactory Epi       | Hyperplasia                   | Minimal              |
| * Trachea |                             | Metaplasia                    | Squamous, Minimal    |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 218

TRT#: 3

SEX: Male

DAY ON TEST: 632

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57537

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland

OBSERVATIONS

- \* Bone Maxilla Carcinoma Metastatic (Harderian Gland)
- \* Harderian Gland Carcinoma
- [ Carcinoma TGLs = 3-11 ]
- \* Kidney Nephropathy Mild
- \* Larynx Epiglottis Fibrosis Minimal
- Metaplasia Squamous, Minimal
- \* Liver Basophilic Focus
- \* Lung Alveolar/Bronchiolar Carcinoma
- [ Alveolar/Bronchiolar Carcinoma TGLs = 4-4 ]
- \* Lymph Node, Mandibular Hyperplasia Lymphoid, Mild
- \* Nose Respirat Epith Hyperplasia Mild
- Inflammation Suppurative, Mild
- \* Spleen Hemangiosarcoma
- [ Hemangiosarcoma TGLs = 1-5 ]

PRIMARY CAUSE OF DEATH - Harderian Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 219

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57538

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 |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Bronchial  | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                  |                               |                   |
|------------------|-------------------------------|-------------------|
| * Adrenal Cortex | Hyperplasia                   | Minimal           |
| * Kidney         | Nephropathy                   | Mild              |
| * Larynx         | Metaplasia                    | Squamous, Minimal |
| * Liver          | Clear Cell Focus              |                   |
|                  | Fatty Change                  | Minimal           |
| * Nose           | Accumulation, Hyaline Droplet | Minimal           |
|                  | Respirat Epith                | Hyperplasia       |
|                  |                               | Minimal           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 220

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57539

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Lung
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Preputial Gland
- \* Skin
- \* Thymus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Stomach, Forestomach
- \* Thyroid Gland

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex Hyperplasia Mild
- \* Intestine Small, Jejunum Adenoma  
  - [ Adenoma TGLs = 4-12 ]
- \* Kidney Nephropathy Mild
- \* Larynx Metaplasia Squamous, Minimal
- \* Liver Eosinophilic Focus  
  - [ Eosinophilic Focus TGLs = 3-6 ]
- \* Nose Accumulation, Hyaline Droplet Minimal  
  - Respirat Epith Hyperplasia Mild
  - Pars Distalis Hyperplasia Moderate
- \* Pituitary Gland
- \* Spleen Lymphoma Malignant  
  - [ Lymphoma Malignant TGLs = 1-5, 2-5 ]
- Tooth Dysplasia Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 221

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57540

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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 | * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Testes                   | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

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

OBSERVATIONS

- |          |  |   |                              |
|----------|--|---|------------------------------|
| * Kidney | Artery   | Inflammation<br>Nephropathy                   | Chronic Active, Mild<br>Mild |
| * Larynx |  | Metaplasia                                    | Squamous, Minimal            |
| * Liver  |  | Hepatocellular Carcinoma<br>Tension Lipidosis | Mild                         |
| * Lung   | [ Hepatocellular Carcinoma TGLs = 2-13 ]                   | Hepatocellular Carcinoma                      | Metastatic (Liver)           |
| * Nose   | [ Hepatocellular Carcinoma TGLs = 1-12 ]<br>Respirat Epith | Accumulation, Hyaline Droplet<br>Hyperplasia  | Mild<br>Minimal              |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 222

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57541

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Mediastinal | * Lymph Node, Mesenteric   | * Pituitary Gland         |
| * Preputial Gland           | * Prostate                | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Stomach, Forestomach    | * Stomach, Glandular       | * Testes                  |
| * Thymus                    | * Thyroid Gland           | * Trachea                  | * Urinary Bladder         |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                  |  |                               |                     |
|------------------|--|-------------------------------|---------------------|
| * Adrenal Cortex | Subcapsular                              | Adenoma                       |                     |
|                  |  | Hyperplasia                   | Minimal             |
| * Bone           |  | Fibro-Osseous Lesion          | Minimal             |
| * Kidney         |  | Nephropathy                   | Mild                |
| * Larynx         | Epiglottis                               | Fibrosis                      | Minimal             |
|                  |  | Metaplasia                    | Squamous, Minimal   |
| * Liver          |  | Hepatocellular Carcinoma      |                     |
|                  | [ Hepatocellular Carcinoma TGLs = 2-12 ] |                               |                     |
| * Lung           | Alveolar Epith                           | Hyperplasia                   | Mild                |
|                  | Bronchiole                               | Hyperplasia                   | Minimal             |
|                  |  | Infiltration Cellular         | Histiocyte, Minimal |
| * Nose           |  | Accumulation, Hyaline Droplet | Minimal             |
|                  | Respirat Epith                           | Hyperplasia                   | Mild                |
| * Pancreas       |  | Lipomatosis                   | Mild                |
| * Spleen         |  | Hemangiosarcoma               |                     |
|                  | [ Hemangiosarcoma TGLs = 1-5 ]           |                               |                     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 223

TRT#: 3

SEX: Male

DAY ON TEST: 591

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57542

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                             |                           |                            |
|--------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Medulla        | * Bone                      | * Bone Marrow             | * Brain                    |
| * Epididymis             | * Esophagus                 | * Harderian Gland         | * Heart                    |
| * Intestine Large, Cecum | * Intestine Small, Duodenum | * Intestine Small, Ileum  | * Intestine Small, Jejunum |
| * Islets, Pancreatic     | * Lung                      | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Parathyroid Gland      | * Pituitary Gland           | * Preputial Gland         | * Prostate                 |
| * Seminal Vesicle        | * Skin                      | * Spleen                  | * Stomach, Forestomach     |
| * Stomach, Glandular     | * Testes                    | * Thymus                  | * Thyroid Gland            |
| * Trachea                | * Urinary Bladder           |                           |                            |

MISSING

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

OBSERVATIONS

- |  |                                       |                       |                      |
|--|---------------------------------------|-----------------------|----------------------|
| * Adrenal Cortex   | Subcapsular                           | Adenoma               |                      |
| * Eye  | Cornea                                | Inflammation          | Chronic Active, Mild |
| * Intestine Large, Colon                                     |                                       | Adenoma               |                      |
|  |                                       | Ulcer                 | Mild                 |
| * Intestine Large, Rectum                                    |                                       | Cyst                  | Minimal              |
|  |                                       | Fibrosis              | Minimal              |
| Note: no code for dilatation colonic gland, recorded as cyst |                                       |                       |                      |
| * Kidney   |                                       | Nephropathy           | Mild                 |
|  | [ Nephropathy TGLs = 2-6 ]            |                       |                      |
| * Larynx   |                                       | Metaplasia            | Squamous, Minimal    |
| * Liver  |                                       | Fatty Change          | Minimal              |
| * Lymph Node, Mandibular                                     |                                       | Infiltration Cellular | Plasma Cell, Mild    |
|  | [ Infiltration Cellular TGLs = 3-12 ] |                       |                      |
| * Nose   | Respirat Epith                        | Hyperplasia           | Mild                 |
|  | Olfactory Epi                         | Metaplasia            | Respiratory, Mild    |
| * Pancreas   | Acinus                                | Atrophy               | Mild                 |
| * Salivary Glands  |                                       | Infiltration Cellular | Lymphocyte, Minimal  |
|  | [ Infiltration Cellular TGLs = 1-8 ]  |                       |                      |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 224

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57543

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Epididymis
- \* Intestine Small, Ileum
- \* Islets, Pancreatic
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- [ Hepatocellular Carcinoma TGLs = 2-6 ]
- Mesentery
- [ Inflammation TGLs = 3-12 ]
- \* Nose
- \* Pituitary Gland
- \* Testes
- Tooth
- Spermatocoele
- Adenoma
- Adenoma
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Inflammation
- Hyperplasia
- Hyperplasia
- Atrophy
- Dysplasia
- Mild
- Mild
- Minimal
- Squamous, Minimal
- Chronic Active, Moderate
- Mild
- Minimal
- Mild
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 225

TRT#: 3

SEX: Male

DAY ON TEST: 439

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57544

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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 | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  |
| * Pancreas                  | * Pituitary Gland        | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

- |                         |                 |                     |          |
|-------------------------|-----------------|---------------------|----------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland | * Thymus |
|-------------------------|-----------------|---------------------|----------|

OBSERVATIONS

- |                      |                |              |                       |
|----------------------|----------------|--------------|-----------------------|
| * Bone               | Cranium        | Fracture     | Moderate              |
| * Harderian Gland    |                | Cyst         | Minimal               |
| [ Cyst TGLs = 1-11 ] |                |              |                       |
| * Kidney             | Pelvis         | Inflammation | Suppurative, Mild     |
|                      | Papilla        | Necrosis     | Mild                  |
| * Larynx             |                | Metaplasia   | Squamous, Minimal     |
| * Liver              |                | Fatty Change | Mild                  |
| * Nose               | Respirat Epith | Hyperplasia  | Minimal               |
|                      |                | Inflammation | Suppurative, Moderate |
|                      |                | Necrosis     | Moderate              |

PRIMARY CAUSE OF DEATH

- Bone Cranium Fracture

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 226

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57545

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Bronchial  | * Lymph Node, Mandibular   | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Preputial Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Testes                  |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

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

OBSERVATIONS

- |  |               |                      |                   |
|--|---------------|----------------------|-------------------|
| * Adrenal Cortex<br>[ Adenoma TGLs = 1-3 ] | Subcapsular   | Adenoma              |                   |
| * Bone                                     |               | Fibro-Osseous Lesion | Mild              |
| * Kidney                                   |               | Nephropathy          | Mild              |
| * Larynx                                   |               | Metaplasia           | Squamous, Minimal |
| * Liver                                    |               | Fatty Change         | Minimal           |
| * Pituitary Gland                          | Pars Distalis | Hyperplasia          | Minimal           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 227

TRT#: 3

SEX: Male

DAY ON TEST: 628

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57546

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Prostate
- \* Stomach, Forestomach
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Testes
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Preputial Gland
- \* Skin
- \* Thyroid Gland

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Medulla
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 4-5, 5-14, 6-13 ]
- \* Lung
- [ Alveolar/Bronchiolar Carcinoma TGLs = 3-12 ]
- Lymph Node
- Renal
- Lumbar
- [ Lymphoma Malignant TGLs = 9-6 ]
- [ Lymphoma Malignant TGLs = 10-16 ]
- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- [ Lymphoma Malignant TGLs = 2-3 ]
- \* Lymph Node, Mesenteric
- [ Lymphoma Malignant TGLs = 11-15 ]
- Mesentery
- Hyperplasia
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Lymphoma Malignant
- Alveolar/Bronchiolar Carcinoma
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Minimal
- Minimal
- Squamous, Minimal
- Multiple

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 227

TRT#: 3

SEX: Male

DAY ON TEST: 628

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57546

ORGAN AND ACCOUNTABLE SITE STATUS

* Nose		Accumulation, Hyaline Droplet	Minimal
	Respirat Epith	Hyperplasia	Mild
	Glands, Olfactory Epi	Hyperplasia	Minimal
* Pancreas		Lymphoma Malignant	
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 8-5 ]		
* Thymus		Lymphoma Malignant	

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 228

TRT#: 3

SEX: Male

DAY ON TEST: 709

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57547

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                            |                           |                             |
|---------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla          | * 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 | * Islets, Pancreatic      | * Lymph Node, Bronchial     |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                | * Pituitary Gland           |
| * Preputial Gland         | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                    | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                  | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

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

OBSERVATIONS

- |                   |  |                               |                        |
|-------------------|--|-------------------------------|------------------------|
| * Eye             | Lens                                     | Degeneration                  | Moderate               |
|                   | Cornea                                   | Inflammation                  | Chronic Active, Marked |
|                   | [ Inflammation TGLs = 1-11; 6-11 ]       |                               |                        |
| * Harderian Gland |  | Carcinoma                     |                        |
|                   | [ Carcinoma TGLs = 3-11 ]                |                               |                        |
| * Heart           |  | Cardiomyopathy                | Mild                   |
| * Kidney          |  | Nephropathy                   | Mild                   |
| * Larynx          |  | Metaplasia                    | Squamous, Minimal      |
| * Liver           |  | Fatty Change                  | Minimal                |
|                   |  | Hepatocellular Adenoma        |                        |
|                   | [ Hepatocellular Adenoma TGLs = 5-13 ]   | Hepatocellular Carcinoma      |                        |
|                   | [ Hepatocellular Carcinoma TGLs = 4-12 ] |                               |                        |
| * Lung            |  | Erythrophagocytosis           | Mild                   |
|                   |  | Infiltration Cellular         | Histiocyte, Minimal    |
| * Nose            |  | Accumulation, Hyaline Droplet | Mild                   |
|                   | Turbinate                                | Degeneration                  | Moderate               |
|                   | Respirat Epith                           | Hyperplasia                   | Mild                   |
| * Testes          | Germinal Epith                           | Atrophy                       | Mild                   |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 228

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 709

**DOSE:** 10 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57547

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Harderian Gland Carcinoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 229

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57548

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Carcinoma TGLs = 3-12 ]
- [ Necrosis TGLs = 2-6 ]
- \* Lung
- \* Preputial Gland
- \* Skin
- [ Inflammation TGLs = 1-13 ]
- Nephropathy
- Metaplasia
- Hepatocellular Carcinoma
- Necrosis
- Hepatocellular Carcinoma
- Inflammation
- Inflammation
- Mild
- Squamous, Minimal
- Moderate
- Metastatic (Liver)
- Chronic Active, Moderate
- Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 230

TRT#: 3

SEX: Male

DAY ON TEST: 556

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57549

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Islets, Pancreatic
- \* Pancreas
- \* Prostate
- \* Spleen
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Thymus

AUTO PRECLUDES DIAG.

- \* Intestine Small, Duodenum
- \* Intestine Small, Jejunum

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 6-14 ]
- [ Hepatocellular Carcinoma TGLs = 2-12, 3-13, 4-5, 5-5 ]
- \* Lung
- \* Nose
- Hyperplasia
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Necrosis
- Hepatocellular Carcinoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Minimal
- Minimal
- Squamous, Minimal
- Multiple
- Mild
- Metastatic (Liver)
- Minimal
- Minimal
- Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 231

TRT#: 3

SEX: Male

DAY ON TEST: 727

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57550

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Carcinoma TGLs = 2-12 ]
- \* Lung
- \* Nose
- \* Preputial Gland
- \* Testes
- Nephropathy
- Metaplasia
- Hepatocellular Carcinoma
- Necrosis
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Ectasia
- Atrophy
- Moderate
- Squamous, Minimal
- Moderate
- Minimal
- Minimal
- Mild
- Moderate
- Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 232

TRT#: 3

SEX: Male

DAY ON TEST: 591

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57551

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Epididymis
- \* Esophagus
- \* Eye
- \* Gallbladder
- \* Harderian Gland
- \* Heart
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Intestine Small, Ileum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

AUTO PRECLUDES DIAG.

- \* Intestine Small, Duodenum
- \* Intestine Small, Jejunum

OBSERVATIONS

- \* Bone
  - Cranium Inflammation Chronic Active, Marked
  - Maxilla Necrosis Moderate
  - [ Inflammation TGLs = 2-10 ]
  - [ Necrosis TGLs = 3-10 ]
- \* Kidney Nephropathy Minimal
- \* Larynx Inflammation Chronic Active, Minimal
- Metaplasia Squamous, Mild
- Necrosis Mild
- \* Liver Fatty Change Minimal
- Hepatocellular Carcinoma
- Hyperplasia Mild
- Necrosis Mild
- [ Hepatocellular Carcinoma TGLs = 4-13 ]
- [ Necrosis TGLs = 5-5 ]
- \* Lung Hepatocellular Carcinoma Metastatic (Liver)
- \* Nose Accumulation, Hyaline Droplet Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 232

TRT#: 3

SEX: Male

DAY ON TEST: 591

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57551

ORGAN AND ACCOUNTABLE SITE STATUS

Respirat Epith

Hyperplasia

Mild

Inflammation

Suppurative, Moderate

Olfactory Epi

Metaplasia

Respiratory, Mild

Necrosis

Moderate

\* Skin

Sebaceous GI

Hyperplasia

Mild

[ Hyperplasia TGLs = 1-12 ]

\* Trachea

Metaplasia

Squamous, Minimal

PRIMARY CAUSE OF DEATH

- Bone Cranium Inflammation

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 233

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57552

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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 |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

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

OBSERVATIONS

- |                   |                               |                   |
|-------------------|-------------------------------|-------------------|
| * Harderian Gland | Carcinoma                     |                   |
| * Kidney          | Nephropathy                   | Mild              |
| * Larynx          | Metaplasia                    | Squamous, Minimal |
| * Liver           | Fatty Change                  | Minimal           |
|                   | Tension Lipidosis             | Minimal           |
| * Nose            | Accumulation, Hyaline Droplet | Minimal           |
|                   | Respirat Epith                | Minimal           |
|                   | Hyperplasia                   | Minimal           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 234

TRT#: 3

SEX: Male

DAY ON TEST: 565

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57553

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Epididymis
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Preputial Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Gallbladder
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Carcinoma TGLs = 2-12, 3-13 ]
    - [ Necrosis TGLs = 1-14 ]
  - \* Lymph Node, Mesenteric
    - [ Hemangiosarcoma TGLs = 5-7 ]
  - \* Nose
  - \* Skin
    - [ Ulcer TGLs = 4-15 ]
  - \* Testes
- Nephropathy  
Metaplasia  
Hepatocellular Carcinoma  
Necrosis
- Hemangiosarcoma
- Accumulation, Hyaline Droplet  
Hyperplasia  
Ulcer
- Atrophy
- Moderate  
Squamous, Minimal  
Multiple  
Mild
- Mild  
Minimal  
Mild  
Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 235

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57554

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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 | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  |
| * Pancreas                  | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

- |                         |                 |                     |          |
|-------------------------|-----------------|---------------------|----------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland | * Thymus |
|-------------------------|-----------------|---------------------|----------|

OBSERVATIONS

- |                         |               |                               |                   |
|-------------------------|---------------|-------------------------------|-------------------|
| * Adrenal Cortex        |               | Hyperplasia                   | Minimal           |
| * Harderian Gland       |               | Adenoma                       |                   |
| [ Adenoma TGLs = 1-11 ] |               |                               |                   |
| * Kidney                |               | Nephropathy                   | Mild              |
| * Larynx                |               | Metaplasia                    | Squamous, Minimal |
| * Liver                 |               | Fatty Change                  | Minimal           |
| * Nose                  |               | Accumulation, Hyaline Droplet | Mild              |
| * Pituitary Gland       | Pars Intermed | Hypertrophy                   | Mild              |
| Tooth                   |               | Dysplasia                     | Mild              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 236

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57555

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Pancreas                |
| * Parathyroid Gland         | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Testes                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- |                           |                 |          |
|---------------------------|-----------------|----------|
| * Lymph Node, Mediastinal | * Mammary Gland | * Thymus |
|---------------------------|-----------------|----------|

OBSERVATIONS

- |                          |                   |                               |                      |
|--------------------------|-------------------|-------------------------------|----------------------|
| * Adrenal Cortex         | Subcapsular       | Adenoma                       |                      |
| * Bone                   |                   | Fibro-Osseous Lesion          | Mild                 |
| * Kidney                 |                   | Nephropathy                   | Mild                 |
| * Larynx                 |                   | Metaplasia                    | Squamous, Minimal    |
| * Liver                  |                   | Clear Cell Focus              |                      |
|                          |                   | Fatty Change                  | Focal, Minimal       |
|                          |                   | Hepatocellular Adenoma        | Multiple             |
| [ Hepatocellular Adenoma | TGLs = 1-6, 2-5 ] |                               |                      |
| * Lung                   | Alveolar Epith    | Hyperplasia                   | Minimal              |
| * Nose                   |                   | Accumulation, Hyaline Droplet | Minimal              |
|                          | Respirat Epith    | Hyperplasia                   | Minimal              |
| * Pituitary Gland        | Pars Distalis     | Hyperplasia                   | Minimal              |
| * Preputial Gland        |                   | Inflammation                  | Chronic Active, Mild |
| Tooth                    |                   | Dysplasia                     | Moderate             |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 237

TRT#: 3

SEX: Male

DAY ON TEST: 596

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57556

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- Peripheral Nerve
- \* Salivary Glands
- Spinal Cord
- \* Thyroid Gland
- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Spleen
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- Skeletal Muscle
- \* Stomach, Glandular
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Prostate
- \* Skin
- \* Testes

MISSING

- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-5 ]
- \* Nose
- Respirat Epith
- Olfactory Epi
- \* Stomach, Forestomach
- \* Trachea
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Metaplasia
- Hyperplasia
- Metaplasia
- Minimal
- Squamous, Minimal
- Minimal
- Minimal
- Suppurative, Mild
- Respiratory, Moderate
- Squamous, Mild
- Squamous, Mild

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 238

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57557

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Bone
  - \* Intestine Small, Ileum
    - [ Lymphoma Malignant TGLs = 5-14 ]
  - \* Islets, Pancreatic
  - \* Kidney
  - \* Larynx
  - \* Lung
    - Bronchiole
    - Alveolar Epith
    - [ Hyperplasia TGLs = 1-12 ]
    - [ Lymphoma Malignant TGLs = 2-4 ]
  - \* Lymph Node, Bronchial
  - \* Nose
    - Glands, Olfactory Epi
  - \* Spleen
    - [ Lymphoma Malignant TGLs = 3-13, 4-5 ]
- Hyperplasia Minimal
- Fibro-Osseous Lesion Minimal
- Lymphoma Malignant
- Adenoma
- Nephropathy Mild
- Metaplasia Squamous, Minimal
- Hyperplasia Mild
- Hyperplasia Mild
- Lymphoma Malignant
- Lymphoma Malignant
- Accumulation, Hyaline Droplet Mild
- Hyperplasia Minimal
- Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 239

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57558

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Preputial Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-6 ]
- \* Nose
- \* Testes
- Hyperplasia
- Fibro-Osseous Lesion
- Nephropathy
- Metaplasia
- Clear Cell Focus
- Hepatocellular Adenoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Nuclear Alteration
- Mild
- Minimal
- Mild
- Squamous, Minimal
- Minimal
- Minimal
- Focal, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 240

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57559

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
  - Cyst
  - Nephropathy
  - Metaplasia
  - Fatty Change
  - Hepatocellular Adenoma
- \* Larynx
- \* Liver
  - [ Hepatocellular Adenoma TGLs = 2-6 ]
  - Mesentery
    - Fat
    - [ Necrosis TGLs = 1-12 ]
  - Necrosis
- \* Nose
  - Accumulation, Hyaline Droplet
- \* Pituitary Gland
  - Respirat Epith
  - Pars Distalis
  - Hyperplasia
  - Hyperplasia

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 241

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57560

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Prostate
- \* Stomach, Glandular
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Salivary Glands
- \* Testes
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Pancreas
- \* Seminal Vesicle
- \* Thymus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Skin
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Kidney
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Adenoma TGLs = 3-6 ]
  - Lymph Node
    - Renal
    - Pancreatic
    - [ Lymphoma Malignant TGLs = 4-12 ]
  - \* Lymph Node, Mandibular
  - \* Lymph Node, Mesenteric
  - \* Nose
    - Respirat Epith
    - Glands, Olfactory Epi
    - Pars Distalis
  - \* Pituitary Gland
  - \* Preputial Gland
    - [ Ectasia TGLs = 1-8 ]
  - \* Spleen
    - [ Lymphoma Malignant TGLs = 2-5 ]
- Hyperplasia  
Nephropathy  
Metaplasia  
Hepatocellular Adenoma  
Lymphoma Malignant  
Lymphoma Malignant  
Lymphoma Malignant  
Lymphoma Malignant  
Accumulation, Hyaline Droplet  
Hyperplasia  
Hyperplasia  
Hyperplasia  
Ectasia  
Inflammation  
Lymphoma Malignant
- Minimal  
Mild  
Squamous, Minimal  
Mild  
Minimal  
Minimal  
Minimal  
Mild  
Minimal  
Minimal  
Mild  
Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

---

**ANIMAL ID:** 241

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 10 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57560

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Stomach, Forestomach

Cyst

Squamous, Minimal

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 242

TRT#: 3

SEX: Male

DAY ON TEST: 547

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57561

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Lymph Node, Mesenteric    | * Pancreas               | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- |                          |                 |                     |          |
|--------------------------|-----------------|---------------------|----------|
| * Lymph Node, Mandibular | * Mammary Gland | * Parathyroid Gland | * Thymus |
|--------------------------|-----------------|---------------------|----------|

OBSERVATIONS

- |                           |  |                                |                   |
|---------------------------|--|--------------------------------|-------------------|
| * Heart                   | Pericardium                                    | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung) |
|                           | [ Alveolar/Bronchiolar Carcinoma TGLs = 9-13 ] |                                |                   |
| * Kidney                  |  | Nephropathy                    | Mild              |
| * Larynx                  | Epiglottis                                     | Fibrosis                       | Minimal           |
|                           |  | Metaplasia                     | Squamous, Minimal |
| * Liver                   |  | Congestion                     | Minimal           |
|                           |  | Hemangiosarcoma                | Multiple          |
|                           |  | Hepatocellular Adenoma         |                   |
|                           |  | Hepatocellular Carcinoma       |                   |
|                           | [ Congestion TGLs = 7-6 ]                      |                                |                   |
|                           | [ Hemangiosarcoma TGLs = 4-14, 5-15, 6-16 ]    |                                |                   |
|                           | [ Hepatocellular Adenoma TGLs = 8-5 ]          |                                |                   |
|                           | [ Hepatocellular Carcinoma TGLs = 3-5 ]        |                                |                   |
| * Lung                    |  | Alveolar/Bronchiolar Carcinoma |                   |
|                           | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ]  |                                |                   |
| * Lymph Node, Bronchial   |  | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung) |
| * Lymph Node, Mediastinal |  | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung) |
| * Nose                    |  | Accumulation, Hyaline Droplet  | Minimal           |
|                           | Respirat Epith                                 | Hyperplasia                    | Minimal           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 242

TRT#: 3

SEX: Male

DAY ON TEST: 547

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57561

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tissue NOS

Mediastinum

Alveolar/Bronchiolar Carcinoma

Metastatic (Lung)

[ Alveolar/Bronchiolar Carcinoma TGLs = 1-12 ]

---

PRIMARY CAUSE OF DEATH

- Lung Alveolar/Bronchiolar Carcinoma

---



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 243

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57562

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * 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, Mesenteric | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Testes                    | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

- |                         |                          |                           |                 |
|-------------------------|--------------------------|---------------------------|-----------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Mammary Gland |
|-------------------------|--------------------------|---------------------------|-----------------|

OBSERVATIONS

- |                              |                |                               |                      |
|------------------------------|----------------|-------------------------------|----------------------|
| * Eye                        | Cornea         | Inflammation                  | Chronic Active, Mild |
| [ Inflammation TGLs = 1-11 ] |                |                               |                      |
| * Harderian Gland            |                | Carcinoma                     |                      |
| [ Carcinoma TGLs = 2-11 ]    |                |                               |                      |
| * Kidney                     |                | Nephropathy                   | Mild                 |
| * Larynx                     | Epiglottis     | Fibrosis                      | Minimal              |
|                              |                | Metaplasia                    | Squamous, Minimal    |
| * Liver                      |                | Clear Cell Focus              |                      |
|                              |                | Eosinophilic Focus            |                      |
|                              |                | Fatty Change                  | Minimal              |
| * Nose                       |                | Accumulation, Hyaline Droplet | Minimal              |
|                              | Respirat Epith | Hyperplasia                   | Mild                 |
| * Spleen                     |                | Lymphoma Malignant            |                      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 244

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57563

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 |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Nose                    | * Pancreas                  | * Parathyroid Gland       | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands         | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach    | * Stomach, Glandular       |
| * Testes                  | * Thymus                    | * Thyroid Gland           | * Trachea                  |
| * Urinary Bladder         |                             |                           |                            |

MISSING

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

OBSERVATIONS

- |                  |            |                        |                   |
|------------------|------------|------------------------|-------------------|
| * Adrenal Cortex |            | Hyperplasia            | Minimal           |
| * Kidney         |            | Metaplasia             | Osseous, Minimal  |
| * Larynx         | Epiglottis | Fibrosis               | Minimal           |
|                  |            | Metaplasia             | Squamous, Minimal |
| * Liver          |            | Fatty Change           | Mild              |
|                  |            | Hepatocellular Adenoma | Multiple          |

[ Fatty Change TGLs = 2-13 ]

[ Hepatocellular Adenoma TGLs = 1-12, 3-5, 4-5 ]

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 245

TRT#: 3

SEX: Male

DAY ON TEST: 620

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57564

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Liver
- \* Pancreas
- \* Salivary Glands
- \* Thymus
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Preputial Gland
- \* Spleen
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Heart
- \* Kidney
- [ Hemorrhage TGLs = 3-6 ]
- \* Larynx
- \* Lung
- \* Nose
- \* Skin
- [ Ulcer TGLs = 1-12 ]
- \* Stomach, Glandular
- \* Testes
- [ Adenoma TGLs = 2-8 ]
- Capsule
- Epiglottis
- Bronchiole
- Respirat Epith
- Arteriole, Serosa
- Interstit Cell
- Cardiomyopathy
- Hemorrhage
- Nephropathy
- Fibrosis
- Metaplasia
- Hyperplasia
- Hyperplasia
- Ulcer
- Inflammation
- Adenoma
- Mild
- Moderate
- Minimal
- Minimal
- Squamous, Minimal
- Minimal
- Minimal
- Marked
- Chronic Active, Mild

PRIMARY CAUSE OF DEATH - Kidney Capsule Hemorrhage

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 246

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57565

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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 | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

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

OBSERVATIONS

- |                   |                |              |                      |
|-------------------|----------------|--------------|----------------------|
| * Adrenal Cortex  |                | Hyperplasia  | Minimal              |
| * Harderian Gland |                | Hyperplasia  | Mild                 |
| * Kidney          |                | Nephropathy  | Mild                 |
| * Larynx          | Epiglottis     | Fibrosis     | Minimal              |
|                   |                | Metaplasia   | Squamous, Mild       |
| * Liver           |                | Fatty Change | Minimal              |
| * Nose            | Respirat Epith | Hyperplasia  | Mild                 |
| * Preputial Gland |                | Inflammation | Chronic Active, Mild |
| Tooth             |                | Dysplasia    | Minimal              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 247

TRT#: 3

SEX: Male

DAY ON TEST: 677

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57566

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Eye  
Cornea  
Inflammation  
Chronic Active, Moderate
- \* Harderian Gland  
[ Carcinoma TGLs = 2-11 ]  
Carcinoma
- \* Kidney  
Nephropathy  
Mild
- \* Larynx  
Metaplasia  
Squamous, Minimal
- \* Liver  
[ Hepatocellular Adenoma TGLs = 3-12, 4-6 ]  
Hepatocellular Adenoma  
Multiple
- \* Lung  
Bronchiole  
Hyperplasia  
Infiltration Cellular  
Minimal  
Histiocyte, Minimal
- \* Lymph Node, Mandibular  
[ Hyperplasia TGLs = 1-8 ]  
Hyperplasia  
Lymphoid, Mild
- \* Nose  
Respirat Epith  
Accumulation, Hyaline Droplet  
Mild  
Hyperplasia  
Minimal  
Hyperplasia  
Minimal

PRIMARY CAUSE OF DEATH - Harderian Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 248

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57567

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 |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Pancreas                | * Pituitary Gland           | * Prostate               | * Salivary Glands          |
| * Seminal Vesicle         | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- |                           |                 |                     |
|---------------------------|-----------------|---------------------|
| * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|---------------------------|-----------------|---------------------|

OBSERVATIONS

- |                   |                                  |                                |                         |
|-------------------|----------------------------------|--------------------------------|-------------------------|
| * Adrenal Cortex  |                                  | Hyperplasia                    | Moderate                |
| * Kidney          |                                  | Infarct                        | Mild                    |
|                   |                                  | Nephropathy                    | Mild                    |
| * Larynx          |                                  | Metaplasia                     | Squamous, Minimal       |
| * Liver           |                                  | Hepatocellular Adenoma         |                         |
| * Lung            |                                  | Alveolar/Bronchiolar Carcinoma |                         |
|                   | Alveolar Epith                   | Hyperplasia                    | Minimal                 |
|                   |                                  | Infiltration Cellular          | Histiocyte, Mild        |
|                   | [ Alveolar/Bronchiolar Carcinoma | TGLs = 3-12 ]                  |                         |
| Mesentery         | Fat                              | Necrosis                       | Minimal                 |
|                   | [ Necrosis                       | TGLs = 2-6 ]                   |                         |
| * Nose            |                                  | Accumulation, Hyaline Droplet  | Minimal                 |
|                   | Respirat Epith                   | Hyperplasia                    | Minimal                 |
| * Preputial Gland |                                  | Ectasia                        | Mild                    |
| * Skin            |                                  | Inflammation                   | Chronic Active, Minimal |
| * Spleen          |                                  | Fibrosis                       | Moderate                |
|                   | [ Fibrosis                       | TGLs = 1-5 ]                   |                         |
| Tooth             |                                  | Dysplasia                      | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 249

TRT#: 3

SEX: Male

DAY ON TEST: 598

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57568

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                           |                           |
|-----------------------------|--------------------------|---------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                    | * Bone Marrow             |
| * Epididymis                | * Esophagus              | * Eye                     | * Gallbladder             |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon  | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Islets, Pancreatic      | * Lung                    |
| * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric  |
| * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland         | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | Skeletal Muscle           | Spinal Cord               |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular      | * Testes                  |
| * Thymus                    | * Thyroid Gland          | * Trachea                 | * Urinary Bladder         |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                            |  |                               |                          |
|----------------------------|--|-------------------------------|--------------------------|
| Blood Vessel               | Aorta  | Inflammation                  | Chronic Active, Mild     |
| * Brain                    | Arteriole  | Inflammation                  | Chronic Active, Mild     |
| * Heart                    | Artery   | Inflammation                  | Chronic Active, Moderate |
| * Intestine Small, Jejunum |  | Carcinoma                     |                          |
| * Kidney                   | Artery   | Inflammation                  | Chronic Active, Mild     |
|                            |  | Nephropathy                   | Mild                     |
| * Larynx                   |  | Metaplasia                    | Squamous, Minimal        |
| * Liver                    |  | Hepatocellular Adenoma        | Multiple                 |
|                            | [ Hepatocellular Adenoma TGLs = 2-13, 3-14, 4-14 ] |                               |                          |
| Mesentery                  | Arteriole  | Inflammation                  | Chronic Active, Moderate |
| * Nose                     |  | Accumulation, Hyaline Droplet | Minimal                  |
|                            | Respirat Epith                                     | Hyperplasia                   | Minimal                  |
| * Pancreas                 |  | Inflammation                  | Chronic Active, Mild     |
| * Skin                     |  | Inflammation                  | Chronic Active, Mild     |
|                            |  | Ulcer                         | Moderate                 |

[ Ulcer TGLs = 1-15 ]

PRIMARY CAUSE OF DEATH

- Skin Ulcer

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 250

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57569

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Gallbladder
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Nose
- \* Trachea
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 1-5, 2-12 ]
- Respirat Epith
- Glands, Olfactory Epi
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Metaplasia
- Mild
- Mild
- Minimal
- Squamous, Minimal
- Minimal
- Multiple
- Mild
- Minimal
- Minimal
- Squamous, Minimal

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 401

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57420

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- Tooth
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 2-13, 4-12 ]
- [ Alveolar/Bronchiolar Adenoma TGLs = 1-4 ]
- Glands, Olfactory Epi
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Mixed Cell Focus
- Alveolar/Bronchiolar Adenoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Dysplasia
- Mild
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Multiple
- Mild
- Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 402

TRT#: 5

SEX: Male

DAY ON TEST: 640

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57421

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex  
[ Sarcoma TGLs = 2-3, 3-3 ]
- \* Bone
- \* Bone Marrow
- \* Kidney
- \* Larynx
- \* Liver  
[ Hepatocellular Carcinoma TGLs = 5-13 ]  
[ Sarcoma TGLs = 5-13 ]
- \* Lung  
Lymph Node  
[ Sarcoma TGLs = 4-12 ]
- \* Lymph Node, Mediastinal
- Mesentery
- \* Nose
- \* Pancreas
- Sarcoma
- Inflammation
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Carcinoma
- Sarcoma
- Infiltration Cellular
- Sarcoma
- Hematopoietic Cell Proliferation
- Infiltration Cellular
- Inflammation
- Sarcoma
- Accumulation, Hyaline Droplet
- Sarcoma
- Metastatic (Liver)
- Chronic Active, Moderate
- Moderate
- Minimal
- Minimal
- Squamous, Mild
- Polymorphnuclr, Moderate
- Metastatic (Liver)
- Mild
- Mixed Cell, Mild
- Chronic Active, Moderate
- Metastatic (Liver)
- Mild
- Metastatic (Liver)

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

**ANIMAL ID:** 402

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 640

**DOSE:** 30 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57421

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Preputial Gland

Ectasia

Minimal

\* Spleen

Hematopoietic Cell Proliferation

Moderate

Tooth

Dysplasia

Mild

---

PRIMARY CAUSE OF DEATH

- Liver Sarcoma

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 403

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57422

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 |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Pancreas                | * Pituitary Gland           | * Prostate                | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                  | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Testes                    | * Thymus                  | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                           |                            |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                   |   |                               |                          |
|-------------------|---|-------------------------------|--------------------------|
| * Adrenal Cortex  |   | Hyperplasia                   | Minimal                  |
| * Kidney          |   | Cyst                          | Minimal                  |
|                   |   | Nephropathy                   | Mild                     |
| * Larynx          |   | Metaplasia                    | Squamous, Mild           |
| * Liver           |   | Hepatocellular Adenoma        | Multiple                 |
|                   | [ Hepatocellular Adenoma TGLs = 1-6, 2-12 ] |                               |                          |
| * Lung            | Bronchiole                                  | Hyperplasia                   | Minimal                  |
| * Nose            |   | Accumulation, Hyaline Droplet | Mild                     |
|                   | Respirat Epith                              | Hyperplasia                   | Minimal                  |
| * Preputial Gland |   | Inflammation                  | Chronic Active, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 404

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57423

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Prostate
- \* Spleen
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Gallbladder
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Harderian Gland
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Thyroid Gland
- Tooth
- Hyperplasia
- Hyperplasia
- Cyst
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Fatty Change
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Dysplasia
- Mild
- Mild
- Minimal
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Minimal
- Mild
- Minimal
- Minimal
- Minimal
- Mild
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 405

TRT#: 5

SEX: Male

DAY ON TEST: 663

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57424

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* 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
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Pituitary Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- Nephropathy
- Mild
- \* Larynx
- Epiglottis
- Fibrosis
- Minimal
- Metaplasia
- Squamous, Mild
- \* Liver
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Multiple
- [ Hepatocellular Carcinoma TGLs = 2-13, 3-14, 4-5 ]
- \* Lung
- Alveolar/Bronchiolar Carcinoma
- Hepatocellular Carcinoma
- Metastatic (Liver)
- [ Alveolar/Bronchiolar Carcinoma TGLs = 6-12 ]
- \* Nose
- Accumulation, Hyaline Droplet
- Mild
- Respirat Epith
- Hyperplasia
- Minimal
- Glands, Olfactory Epi
- Hyperplasia
- Minimal
- \* Preputial Gland
- Inflammation
- Chronic Active, Moderate
- \* Skin
- Ulcer
- Marked
- [ Ulcer TGLs = 1-15 ]
- \* Spleen
- Hematopoietic Cell Proliferation
- Minimal
- [ Hematopoietic Cell Proliferation TGLs = 5-5 ]

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 406

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57425

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Skin
- \* Testes
- \* Urinary Bladder
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Spleen
- \* Thymus
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea

MISSING

- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Bone
  - \* Eye
    - [ Inflammation TGLs = 1-11 ]
  - \* Harderian Gland
    - [ Adenoma TGLs = 2-11 ]
  - \* Kidney
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Adenoma TGLs = 4-5, 5-12, 6-13 ]
  - \* Lung
  - \* Nose
  - \* Preputial Gland
    - [ Ectasia TGLs = 3-8 ]
- |  |                       |                               |                      |
|--|-----------------------|-------------------------------|----------------------|
|  | Cornea                | Hyperplasia                   | Minimal              |
|  |                       | Fibro-Osseous Lesion          | Minimal              |
|  |                       | Inflammation                  | Chronic Active, Mild |
|  |                       | Adenoma                       |                      |
|  |                       | Nephropathy                   | Mild                 |
|  |                       | Metaplasia                    | Squamous, Mild       |
|  |                       | Fatty Change                  | Minimal              |
|  |                       | Hepatocellular Adenoma        | Multiple             |
|  | Bronchiole            | Hyperplasia                   | Minimal              |
|  |                       | Accumulation, Hyaline Droplet | Mild                 |
|  | Respirat Epith        | Hyperplasia                   | Mild                 |
|  | Glands, Olfactory Epi | Hyperplasia                   | Minimal              |
|  |                       | Inflammation                  | Suppurative, Minimal |
|  |                       | Ectasia                       | Moderate             |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 406

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 30 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57425

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Tooth

Dysplasia  
Inflammation

Mild  
Chronic Active, Mild

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 407

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57426

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Harderian Gland
- \* Kidney
- \* Larynx
- \* Liver
- [ Basophilic Focus TGLs = 1-12 ]
- [ Hepatocellular Adenoma TGLs = 2-13, 3-5 ]
- \* Lung
- \* Lymph Node, Mesenteric
- \* Nose
- Tooth
- Adenoma
- Nephropathy
- Metaplasia
- Basophilic Focus
- Hepatocellular Adenoma
- Alveolar Epith
- Bronchiole
- Respirat Epith
- Glands, Olfactory Epi
- Hyperplasia
- Hyperplasia
- Lymphoma Malignant
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Dysplasia
- Inflammation
- Mild
- Squamous, Mild
- Multiple
- Minimal
- Minimal
- Mild
- Minimal
- Mild
- Moderate
- Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 408

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57427

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * 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, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

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

INSUFFICIENT TISSUE

- \* Larynx

OBSERVATIONS

- |          |                                       |                               |         |
|----------|---------------------------------------|-------------------------------|---------|
| * Brain  |                                       | Hydrocephalus                 | Minimal |
| * Kidney |                                       | Nephropathy                   | Mild    |
| * Liver  |                                       | Basophilic Focus              |         |
|          |                                       | Eosinophilic Focus            |         |
|          |                                       | Hepatocellular Adenoma        |         |
|          | [ Hepatocellular Adenoma TGLs = 1-5 ] |                               |         |
| * Lung   | Alveolar Epith                        | Hyperplasia                   | Minimal |
|          | Bronchiole                            | Hyperplasia                   | Minimal |
| * Nose   |                                       | Accumulation, Hyaline Droplet | Mild    |
|          | Respirat Epith                        | Hyperplasia                   | Mild    |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 409

TRT#: 5

SEX: Male

DAY ON TEST: 438

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57428

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone
- \* Bone Marrow
- \* Brain
- \* Epididymis
- \* Esophagus
- \* Eye
- \* Gallbladder
- \* Harderian Gland
- \* Heart
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland

AUTO PRECLUDES DIAG.

- \* Intestine Small, Duodenum
- \* Intestine Small, Ileum
- \* Intestine Small, Jejunum

OBSERVATIONS

- \* Kidney
- Nephropathy
- Minimal
- \* Larynx
- Metaplasia
- Squamous, Mild
- \* Liver
- Hepatocellular Carcinoma
- Hepatocholeangiocarcinoma
- [ Hepatocellular Carcinoma TGLs = 2-6 ]
- [ Hepatocholeangiocarcinoma TGLs = 1-5 ]
- \* Nose
- Accumulation, Hyaline Droplet
- Minimal
- Respirat Epith
- Hyperplasia
- Mild
- \* Preputial Gland
- Inflammation
- Chronic Active, Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 410

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57429

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- Tooth
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 1-5, 2-6 ]
- Alveolar Epith
- Bronchiole
- Glands, Olfactory Epi
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Dysplasia
- Marked
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Multiple
- Marked
- Minimal
- Mild
- Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 411

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57430

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                          |                           |                             |
|--------------------------|--------------------------|---------------------------|-----------------------------|
| * Bone Marrow            | * Brain                  | * Epididymis              | * Esophagus                 |
| * Eye                    | * Gallbladder            | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Islets, Pancreatic     | * Lymph Node, Bronchial  | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    |
| * Pancreas               | * Parathyroid Gland      | Peripheral Nerve          | * Pituitary Gland           |
| * Prostate               | * Salivary Glands        | * Seminal Vesicle         | Skeletal Muscle             |
| * Skin                   | Spinal Cord              | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Testes                 | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder        |                           |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                            |                |                               |                          |
|----------------------------|----------------|-------------------------------|--------------------------|
| * Adrenal Cortex           | Subcapsular    | Adenoma                       |                          |
|                            |                | Hyperplasia                   | Minimal                  |
| * Adrenal Medulla          |                | Pheochromocytoma Benign       |                          |
| * Bone                     |                | Fibro-Osseous Lesion          | Mild                     |
| * Intestine Small, Ileum   |                | Inflammation                  | Chronic Active, Marked   |
| * Intestine Small, Jejunum |                | Inflammation                  | Chronic Active, Moderate |
| * Kidney                   |                | Nephropathy                   | Mild                     |
| * Larynx                   | Epiglottis     | Fibrosis                      | Minimal                  |
|                            |                | Metaplasia                    | Squamous, Mild           |
| * Liver                    |                | Infiltration Cellular         | Lymphocyte, Mild         |
|                            |                | Tension Lipidosis             | Minimal                  |
| * Lung                     |                | Alveolar/Bronchiolar Adenoma  |                          |
|                            | Bronchiole     | Hyperplasia                   | Minimal                  |
| * Lymph Node, Mandibular   |                | Hyperplasia                   | Lymphoid, Mild           |
| * Nose                     |                | Accumulation, Hyaline Droplet | Mild                     |
|                            | Respirat Epith | Hyperplasia                   | Mild                     |
| * Preputial Gland          |                | Ectasia                       | Moderate                 |
| Tooth                      |                | Dysplasia                     | Minimal                  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 412

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57431

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Stomach, Glandular
- \* Trachea
- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Salivary Glands
- \* Testes
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Thyroid Gland

MISSING

- \* Mammary Gland
- \* Preputial Gland

OBSERVATIONS

- \* Kidney
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Adenoma TGLs = 2-5 ]
  - \* Lung
    - Bronchiole
  - \* Lymph Node, Mesenteric
    - [ Hyperplasia TGLs = 3-7 ]
  - \* Nose
    - Glands, Olfactory Epi
  - \* Skin
  - \* Spleen
    - [ Hematopoietic Cell Proliferation TGLs = 1-5 ]
  - Tooth
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Hyperplasia
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Hematopoietic Cell Proliferation
- Dysplasia
- Mild
- Squamous, Mild
- Minimal
- Plasma Cell, Mild
- Mild
- Minimal
- Chronic Active, Moderate
- Mild
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 413

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57432

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex Subcapsular Adenoma
- \* Harderian Gland Carcinoma
- [ Carcinoma TGLs = 1-11 ]
- \* Intestine Small, Duodenum Hemangiosarcoma
- [ Hemangiosarcoma TGLs = 4-13 ]
- \* Kidney Infarct Mild
- Nephropathy Moderate
- \* Larynx Epiglottis Fibrosis Minimal
- Metaplasia Squamous, Mild
- \* Liver Cyst Mild
- [ Cyst TGLs = 3-12 ]
- \* Lung Alveolar/Bronchiolar Carcinoma
- Bronchiole Hyperplasia Mild
- [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ] Infiltration Cellular Histiocyte, Minimal
- \* Lymph Node, Mediastinal Hyperplasia Plasma Cell, Mild
- \* Nose Accumulation, Hyaline Droplet Minimal
- Glands, Olfactory Epi Hyperplasia Minimal
- Olfactory Epi Metaplasia Respiratory, Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 414

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57433

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Larynx
- \* Liver
- [ Fatty Change TGLs = 5-14 ]
- [ Hepatocellular Adenoma TGLs = 1-5, 3-13, 6-15 ]
- [ Hepatocellular Carcinoma TGLs = 2-5 ]
- \* Lung
- [ Alveolar/Bronchiolar Adenoma TGLs = 4-12 ]
- \* Nose
- \* Trachea
- Hyperplasia
- Fibro-Osseous Lesion
- Nephropathy
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Alveolar/Bronchiolar Adenoma
- Bronchiole
- Hyperplasia
- Accumulation, Hyaline Droplet
- Respirat Epith
- Glands, Olfactory Epi
- Hyperplasia
- Hyperplasia
- Metaplasia
- Minimal
- Mild
- Mild
- Squamous, Mild
- Focal, Minimal
- Multiple
- Minimal
- Mild
- Mild
- Minimal
- Squamous, Minimal

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 415

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57434

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                |
| * Pituitary Gland           | * Preputial Gland         | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                    | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                  | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder         |                            |                           |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                  |  |                               |                |
|------------------|--|-------------------------------|----------------|
| * Adrenal Cortex |  | Hyperplasia                   | Minimal        |
| * Bone           |  | Fibro-Osseous Lesion          | Minimal        |
| * Kidney         |  | Nephropathy                   | Mild           |
| * Larynx         | Epiglottis                                   | Fibrosis                      | Minimal        |
|                  |  | Metaplasia                    | Squamous, Mild |
| * Liver          |  | Fatty Change                  | Minimal        |
|                  | [ Hepatocellular Adenoma TGLs = 1-5 ]        | Hepatocellular Adenoma        |                |
| * Lung           |  | Alveolar/Bronchiolar Adenoma  |                |
|                  | Bronchiole                                   | Hyperplasia                   | Minimal        |
|                  | [ Alveolar/Bronchiolar Adenoma TGLs = 3-12 ] |                               |                |
| * Nose           |  | Accumulation, Hyaline Droplet | Minimal        |
|                  | Respirat Epith                               | Hyperplasia                   | Mild           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 416

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57435

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* 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
- \* Islets, Pancreatic
- \* Lung
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Intestine Small, Jejunum
  - [ Adenoma TGLs = 5-14 ]
- \* Kidney
  - Adenoma
- \* Larynx
  - Epiglottis
  - Nephropathy
  - Fibrosis
  - Metaplasia
  - Squamous, Mild
- \* Liver
  - [ Hepatocellular Adenoma TGLs = 2-13, 3-12, 4-6 ]
  - Hepatocellular Adenoma
  - Tension Lipidosis
  - Multiple
- \* Nose
  - Respirat Epith
  - Accumulation, Hyaline Droplet
  - Hyperplasia
  - Inflammation
  - Minimal
  - Minimal
  - Chronic Active, Marked
- \* Preputial Gland
  - [ Inflammation TGLs = 6-8 ]
- \* Skin
  - [ Melanoma Benign TGLs = 1-15 ]
  - Melanoma Benign
- \* Spleen
  - Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 418

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57437

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- [ Adenoma TGLs = 1-12 ]
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Stomach, Glandular
- Tooth
- Renal Tubule
- Epiglottis
- Alveolar Epith
- Glands, Olfactory Epi
- Glands
- Hyperplasia
- Adenoma
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Mineralization
- Dysplasia
- Minimal
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Marked
- Mild
- Mild
- Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 419

TRT#: 5

SEX: Male

DAY ON TEST: 683

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57438

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Harderian Gland
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- Bronchiole
- Glands, Olfactory Epi
- Hyperplasia
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Necrosis
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Minimal
- Mild
- Minimal
- Squamous, Mild
- Moderate
- Minimal
- Mild
- Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 420

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57439

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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 | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Bronchial  |
| * Lymph Node, Mediastinal  | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Testes                   | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

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

OBSERVATIONS

- |                          |   |                |
|--------------------------|---|----------------|
| * Kidney                 | Nephropathy                             | Moderate       |
| * Larynx                 | Metaplasia                              | Squamous, Mild |
| * Liver                  | Basophilic Focus                        |                |
|                          | Hepatocellular Carcinoma                |                |
|                          | [ Hepatocellular Carcinoma TGLs = 2-5 ] |                |
| * Lymph Node, Mesenteric | Histiocytic Sarcoma                     |                |
|                          | [ Histiocytic Sarcoma TGLs = 3-6 ]      |                |
| * Nose                   | Accumulation, Hyaline Droplet           | Mild           |
|                          | Respirat Epith                          | Hyperplasia    |
|                          |   | Mild           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 421

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57440

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Mesentery
- \* Nose
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 2-5 ]
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-12 ]
- [ Necrosis TGLs = 3-13 ]
- Respirat Epith
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Tension Lipidosis
- Alveolar/Bronchiolar Adenoma
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Hyperplasia
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Mild
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Mild
- Minimal
- Mild
- Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 422

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57441

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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                     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Pancreas                |
| * Preputial Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Testes                    | * Trachea                | * Urinary Bladder          |                           |

MISSING

- |                         |                           |                 |                     |
|-------------------------|---------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
| * Thymus                | * Thyroid Gland           |                 |                     |

OBSERVATIONS

- |                   |                |                               |                          |
|-------------------|----------------|-------------------------------|--------------------------|
| * Adrenal Cortex  |                | Hyperplasia                   | Minimal                  |
| * Bone            | Cranium        | Inflammation                  | Chronic Active, Moderate |
| * Kidney          |                | Nephropathy                   | Mild                     |
| * Larynx          |                | Metaplasia                    | Squamous, Mild           |
| * Lung            | Bronchiole     | Hyperplasia                   | Minimal                  |
| * Nose            |                | Accumulation, Hyaline Droplet | Mild                     |
|                   | Respirat Epith | Hyperplasia                   | Mild                     |
| * Pituitary Gland | Pars Distalis  | Hyperplasia                   | Minimal                  |
| Tooth             |                | Dysplasia                     | Moderate                 |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 423

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57442

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- [ Inflammation TGLs = 1-6 ]
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 2-6 ]
- \* Nose
- Tooth
- Epiglottis
- Hyperplasia
- Fibro-Osseous Lesion
- Inflammation
- Nephropathy
- Fibrosis
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Tension Lipidosis
- Hyperplasia
- Hyperplasia
- Dysplasia
- Minimal
- Minimal
- Suppurative, Marked
- Moderate
- Minimal
- Squamous, Mild
- Minimal
- Minimal
- Mild
- Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 424

TRT#: 5

SEX: Male

DAY ON TEST: 640

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57443

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Liver
- \* Pituitary Gland
- \* Skin
- \* Thymus
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Prostate
- \* Spleen
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Heart
- \* Kidney
- \* Larynx
- \* Lung
- \* Nose
- \* Preputial Gland
- \* Stomach, Forestomach
- Cardiomyopathy
- Nephropathy
- Fibrosis
- Metaplasia
- Alveolar/Bronchiolar Carcinoma
- Alveolar Epith
- Bronchiole
- Perivascular
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ]
- [ Hyperplasia TGLs = 2-4 ]
- Mesentery
- [ Necrosis TGLs = 3-6 ]
- Fat
- Respirat Epith
- Olfactory Epi
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Metaplasia
- Ectasia
- Ulcer
- Mild
- Mild
- Minimal
- Squamous, Mild
- Marked
- Minimal
- Chronic Active, Moderate
- Minimal
- Mild
- Mild
- Respiratory, Mild
- Mild
- Mild

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 425

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57444

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Pituitary Gland
- Tooth
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- Bronchiole
- Glands, Olfactory Epi
- Respirat Epith
- Pars Distalis
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Dysplasia
- Inflammation
- Mild
- Mild
- Minimal
- Squamous, Mild
- Mild
- Minimal
- Moderate
- Minimal
- Minimal
- Minimal
- Minimal
- Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 426

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57445

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 |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                   |                       |                               |                |
|-------------------|-----------------------|-------------------------------|----------------|
| * Adrenal Cortex  |                       | Hyperplasia                   | Minimal        |
| * Kidney          |                       | Nephropathy                   | Mild           |
| * Larynx          |                       | Metaplasia                    | Squamous, Mild |
| * Liver           |                       | Fatty Change                  | Mild           |
| * Lung            | Bronchiole            | Hyperplasia                   | Minimal        |
| * Nose            |                       | Accumulation, Hyaline Droplet | Mild           |
| * Pituitary Gland | Glands, Olfactory Epi | Hyperplasia                   | Minimal        |
| Tooth             | Pars Distalis         | Hyperplasia                   | Minimal        |
|                   |                       | Dysplasia                     | Mild           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 427

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57446

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Pituitary Gland
- \* Thyroid Gland
- Tooth
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- Bronchiole
- Respirat Epith
- Pars Distalis
- Hyperplasia
- Fibro-Osseous Lesion
- Cyst
- Nephropathy
- Fibrosis
- Inflammation
- Metaplasia
- Basophilic Focus
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Inflammation
- Mild
- Minimal
- Mild
- Mild
- Minimal
- Chronic Active, Minimal
- Squamous, Mild
- Minimal
- Minimal
- Mild
- Minimal
- Chronic Active, Minimal
- Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 428

TRT#: 5

SEX: Male

DAY ON TEST: 573

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57447

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

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

AUTO PRECLUDES DIAG.

- |                          |                             |
|--------------------------|-----------------------------|
| * Intestine Large, Cecum | * Intestine Small, Duodenum |
|--------------------------|-----------------------------|

OBSERVATIONS

- |                         |  |                                |                         |
|-------------------------|--|--------------------------------|-------------------------|
| * Harderian Gland       |  | Hyperplasia                    | Moderate                |
| * Heart                 | Pericardium                                    | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung)       |
|                         | [ Alveolar/Bronchiolar Carcinoma TGLs = 3-12 ] |                                |                         |
| * Kidney                |  | Infarct                        | Mild                    |
| * Larynx                |  | Inflammation                   | Chronic Active, Minimal |
|                         |  | Metaplasia                     | Squamous, Mild          |
| * Liver                 |  | Eosinophilic Focus             |                         |
|                         |  | Fatty Change                   | Mild                    |
| * Lung                  |  | Alveolar/Bronchiolar Adenoma   |                         |
|                         |  | Alveolar/Bronchiolar Carcinoma |                         |
|                         | Bronchiole                                     | Hyperplasia                    | Minimal                 |
|                         | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-12 ] |                                |                         |
| * Lymph Node, Bronchial |  | Alveolar/Bronchiolar Carcinoma | Metastatic (Lung)       |
| * Nose                  |  | Accumulation, Hyaline Droplet  | Mild                    |
|                         | Respirat Epith                                 | Hyperplasia                    | Minimal                 |
|                         | Olfactory Epi                                  | Metaplasia                     | Respiratory, Mild       |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 428

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 573

**DOSE:** 30 mg/m3

**DISP:** Natural Death

**HISTO:** 57447

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Lung Alveolar/Bronchiolar Carcinoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 429

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57448

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 |
| * Islets, Pancreatic      | * Liver                     | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                          |                            |                               |                      |
|--------------------------|----------------------------|-------------------------------|----------------------|
| * Adrenal Cortex         |                            | Hyperplasia                   | Minimal              |
| * Kidney                 |                            | Nephropathy                   | Mild                 |
| * Larynx                 |                            | Metaplasia                    | Squamous, Mild       |
| * Lung                   | Bronchiole                 | Hyperplasia                   | Minimal              |
| * Lymph Node, Mesenteric |                            | Infiltration Cellular         | Histiocyte, Moderate |
| * Nose                   |                            | Accumulation, Hyaline Droplet | Minimal              |
| * Stomach, Forestomach   |                            | Hyperplasia                   | Squamous, Marked     |
|                          |                            | Inflammation                  | Chronic Active, Mild |
|                          | [ Hyperplasia TGLs = 1-9 ] |                               |                      |
| Tooth                    |                            | Dysplasia                     | Mild                 |
|                          |                            | Inflammation                  | Chronic Active, Mild |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 430

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57449

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Islets, Pancreatic
- \* Lung
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Harderian Gland
  - [ Adenoma TGLs = 2-11 ]
- \* Kidney
  - Adenoma
- \* Larynx
  - Nephropathy
- \* Liver
  - Metaplasia
  - Basophilic Focus
- \* Nose
  - [ Basophilic Focus TGLs = 3-12 ]
- \* Pituitary Gland
  - Accumulation, Hyaline Droplet
  - Hyperplasia
- \* Preputial Gland
  - Hyperplasia
  - Ectasia
- [ Ectasia TGLs = 1-8 ]
- Tooth
  - Dysplasia

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 431

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57450

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 2-6 ]
- \* Lung
- \* Nose
- \* Preputial Gland
- [ Ectasia TGLs = 1-8 ]
- Hyperplasia
- Nephropathy
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Ectasia
- Inflammation
- Minimal
- Mild
- Squamous, Mild
- Mild
- Minimal
- Mild
- Minimal
- Marked
- Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 432

TRT#: 5

SEX: Male

DAY ON TEST: 715

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57451

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Spleen
- \* Thymus
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mediastinal
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Eye
  - [ Inflammation TGLs = 2-11 ]
- \* Harderian Gland
  - [ Adenoma TGLs = 1-11 ]
- \* Kidney
- \* Larynx
- \* Liver
  - [ Hepatocellular Adenoma TGLs = 3-6 ]
- \* Lung
  - [ Congestion TGLs = 4-4 ]
- \* Nose
- \* Pituitary Gland
- Hyperplasia
- Inflammation
- Adenoma
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Alveolar/Bronchiolar Adenoma
- Congestion
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Mild
- Chronic Active, Moderate
- Mild
- Squamous, Mild
- Mild
- Minimal
- Marked

PRIMARY CAUSE OF DEATH

- Harderian Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 433

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57452

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Eosinophilic Focus TGLs = 1-12 ]
- [ Hepatocellular Carcinoma TGLs = 2-13 ]
- \* Lung
- \* Nose
- \* Pituitary Gland
- Hyperplasia
- Nephropathy
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Carcinoma
- Necrosis
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Hyperplasia
- Mild
- Mild
- Squamous, Minimal
- Minimal
- Mild
- Minimal
- Minimal
- Minimal
- Suppurative, Mild
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 434

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57453

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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 | * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mesenteric |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Testes                    | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

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

OBSERVATIONS

- |                   |                        |                               |                         |
|-------------------|------------------------|-------------------------------|-------------------------|
| * Kidney          |                        | Nephropathy                   | Mild                    |
| * Larynx          |                        | Metaplasia                    | Squamous, Mild          |
| * Liver           |                        | Congestion                    | Minimal                 |
|                   |                        | Fatty Change                  | Minimal                 |
| * Lung            | Bronchiole             | Hyperplasia                   | Minimal                 |
| * Nose            |                        | Accumulation, Hyaline Droplet | Mild                    |
|                   | Glands, Olfactory Epi  | Hyperplasia                   | Mild                    |
| * Preputial Gland |                        | Ectasia                       | Marked                  |
|                   |                        | Inflammation                  | Chronic Active, Minimal |
|                   | [ Ectasia TGLs = 1-8 ] |                               |                         |
| Tooth             |                        | Dysplasia                     | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 435

TRT#: 5

SEX: Male

DAY ON TEST: 645

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57454

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Parathyroid Gland

AUTO PRECLUDES DIAG.

- \* Spleen

OBSERVATIONS

- \* Bone
  - \* Heart
  - \* Kidney
  - \* Larynx
  - \* Liver
  - \* Lung
  - \* Nose
- Valve
- Fibro-Osseous Lesion
- Fibrosis
- Nephropathy
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Necrosis
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- [ Hepatocellular Carcinoma TGLs = 2-5 ]
- Bronchiole
- Respirat Epith
- Glands, Olfactory Epi
- Olfactory Epi
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Metaplasia
- Minimal
- Minimal
- Minimal
- Squamous, Mild
- Mild
- Moderate
- Minimal
- Mild
- Mild
- Minimal
- Respiratory, Minimal

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 435

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 645

**DOSE:** 30 mg/m3

**DISP:** Natural Death

**HISTO:** 57454

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Adenoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 436

TRT#: 5

SEX: Male

DAY ON TEST: 447

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57455

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Lymph Node, Bronchial
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thyroid Gland
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Brain
- Thrombosis
- Mild
- \* Heart
- Inflammation
- Suppurative, Moderate
- \* Kidney
- Infarct
- Moderate
- [ Infarct TGLs = 1-6 ]
- \* Larynx
- Metaplasia
- Squamous, Mild
- \* Liver
- Fatty Change
- Minimal
- \* Lung
- Hemorrhage
- Minimal
- \* Nose
- Accumulation, Hyaline Droplet
- Mild
- Glands, Olfactory Epi
- Hyperplasia
- Minimal
- Respirat Epith
- Hyperplasia
- Mild
- \* Thymus
- Atrophy
- Minimal
- \* Trachea
- Metaplasia
- Squamous, Minimal

PRIMARY CAUSE OF DEATH - Kidney Infarct

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 437

TRT#: 5

SEX: Male

DAY ON TEST: 534

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57456

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Prostate
- \* Stomach, Forestomach
- \* Trachea
- \* Bone
- \* Esophagus
- \* Intestine Large, Rectum
- \* Lymph Node, Mandibular
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Small, Duodenum
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Testes
- \* Brain
- \* Harderian Gland
- \* Intestine Small, Ileum
- \* Pituitary Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Gallbladder
- \* Preputial Gland
- \* Lymph Node, Bronchial
- \* Thymus
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- Blood Vessel
- \* Heart
- [ Carcinoma TGLs = 9-5, 10-13 ]
- \* Intestine Large, Colon
- [ Carcinoma TGLs = 14-15 ]
- \* Islets, Pancreatic
- \* Kidney
- [ Carcinoma TGLs = 12-6, 13-6 ]
- \* Larynx
- \* Liver
- [ Hepatocholangiocarcinoma TGLs = 11-5 ]
- \* Lung
- [ Alveolar/Bronchiolar Carcinoma TGLs = 4-4 ]
- [ Carcinoma TGLs = 3-4, 5-4, 6-4, 7-4, 8-4 ]
- Aorta
- Serosa
- Renal Tubule
- Carcinoma
- Carcinoma
- Carcinoma
- Carcinoma
- Adenoma
- Carcinoma
- Inflammation
- Metaplasia
- Necrosis
- Hepatocholangiocarcinoma
- Alveolar/Bronchiolar Carcinoma
- Carcinoma
- Hepatocholangiocarcinoma
- Metastatic (Kidney)
- Metastatic (Uncertain Primary Site)
- Metastatic (Kidney)
- Metastatic (Kidney)
- Chronic Active, Minimal
- Squamous, Minimal
- Minimal
- Metastatic (Uncertain Primary Site)
- Metastatic (Liver)

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 437

TRT#: 5

SEX: Male

DAY ON TEST: 534

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57456

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mesenteric		Hemorrhage	Marked
* Nose		Accumulation, Hyaline Droplet	Mild
	Respirat Epith	Hyperplasia	Mild
* Pancreas		Carcinoma	Metastatic (Uncertain Primary Site)
Skeletal Muscle		Carcinoma	Metastatic (Kidney)
	[ Carcinoma TGLs = 2-12 ]		
* Skin		Carcinoma	Metastatic (Kidney)
	[ Carcinoma TGLs = 1-14 ]		

PRIMARY CAUSE OF DEATH - Kidney Renal Tubule Carcinoma

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 438

TRT#: 5

SEX: Male

DAY ON TEST: 534

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57457

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Kidney
- \* Lymph Node, Mediastinal
- \* Preputial Gland
- \* Spleen
- \* Thyroid Gland
- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Lung
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Stomach, Forestomach
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Testes

MISSING

- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Intestine Large, Cecum [ Hemorrhage TGLs = 3-12 ] Hemorrhage Moderate
- \* Intestine Small, Ileum Adenoma
- \* Larynx Epiglottis Fibrosis Minimal
- \* Liver Metaplasia Squamous, Mild
- Fatty Change Mild
- Hepatocellular Adenoma
- Necrosis Mild
- \* Nose [ Necrosis TGLs = 1-5 ] Accumulation, Hyaline Droplet Mild
- Glands, Olfactory Epi Hyperplasia Minimal
- Respirat Epith Hyperplasia Mild
- \* Skin Hemangioma
- [ Hemangioma TGLs = 2-6 ]

PRIMARY CAUSE OF DEATH - Intestine Large, Cecum Hemorrhage

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 439

TRT#: 5

SEX: Male

DAY ON TEST: 698

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57458

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Prostate
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Salivary Glands
- \* Testes
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pituitary Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Seminal Vesicle
- \* Skin
- Subcapsular
- Cranium
- Epiglottis
- [ Hepatoblastoma TGLs = 4-12 ]
- [ Hepatocellular Carcinoma TGLs = 5-12 ]
- Bronchiole
- Respirat Epith
- Adenoma
- Fibro-Osseous Lesion
- Inflammation
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatoblastoma
- Hepatocellular Carcinoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Dilatation
- Ulcer
- Minimal
- Chronic Active, Moderate
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Mild
- Mild
- Suppurative, Mild
- Mild
- Moderate

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 439

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 698

**DOSE:** 30 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57458

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dysplasia

Moderate

---

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 440

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57459

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Mediastinal   | * Lymph Node, Mesenteric | * Pancreas                 | * Pituitary Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Testes                  |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- |                         |                          |                 |                     |
|-------------------------|--------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Mammary Gland | * Parathyroid Gland |
|-------------------------|--------------------------|-----------------|---------------------|

OBSERVATIONS

- |                   |                 |                               |                         |
|-------------------|-----------------|-------------------------------|-------------------------|
| * Adrenal Cortex  |                 | Hyperplasia                   | Minimal                 |
| * Bone            |                 | Fibro-Osseous Lesion          | Minimal                 |
| * Kidney          |                 | Nephropathy                   | Mild                    |
| * Larynx          |                 | Metaplasia                    | Squamous, Mild          |
| * Liver           |                 | Tension Lipidosis             | Mild                    |
| * Lung            | Bronchiole      | Hyperplasia                   | Moderate                |
|                   | Interstitialium | Inflammation                  | Chronic Active, Minimal |
| * Nose            |                 | Accumulation, Hyaline Droplet | Mild                    |
|                   | Respirat Epith  | Hyperplasia                   | Minimal                 |
| * Preputial Gland |                 | Inflammation                  | Chronic Active, Mild    |
| Tooth             |                 | Dysplasia                     | Moderate                |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 441

TRT#: 5

SEX: Male

DAY ON TEST: 581

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57460

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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 | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Bronchial  |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Testes                   | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

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

OBSERVATIONS

- |          |   |                                |                      |
|----------|---|--------------------------------|----------------------|
| * Larynx | Epiglottis                                    | Fibrosis                       | Minimal              |
|          |   | Metaplasia                     | Squamous, Mild       |
| * Liver  |   | Fatty Change                   | Mild                 |
|          |   | Necrosis                       | Mild                 |
|          | [ Necrosis TGLs = 5-14, 6-13, 7-5 ]           |                                |                      |
| * Lung   |   | Alveolar/Bronchiolar Carcinoma |                      |
|          | Bronchiole                                    | Hyperplasia                    | Minimal              |
|          | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ] |                                |                      |
| * Nose   |   | Accumulation, Hyaline Droplet  | Mild                 |
|          | Respirat Epith                                | Hyperplasia                    | Minimal              |
|          | Glands, Olfactory Epi                         | Hyperplasia                    | Minimal              |
|          | Olfactory Epi                                 | Metaplasia                     | Respiratory, Minimal |
| * Spleen |   | Congestion                     | Mild                 |
|          | [ Congestion TGLs = 2-5 ]                     |                                |                      |

PRIMARY CAUSE OF DEATH - Liver Necrosis

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 442

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57461

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 |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Pituitary Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Testes                 | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- |                           |                 |                     |
|---------------------------|-----------------|---------------------|
| * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|---------------------------|-----------------|---------------------|

OBSERVATIONS

- |                   |  |                               |                          |
|-------------------|--|-------------------------------|--------------------------|
| * Adrenal Cortex  | Subcapsular                                | Adenoma                       |                          |
|                   |  | Hyperplasia                   | Mild                     |
| * Kidney          |  | Nephropathy                   | Mild                     |
| * Larynx          | Epiglottis                                 | Fibrosis                      | Minimal                  |
|                   |  | Metaplasia                    | Squamous, Mild           |
| * Liver           |  | Hepatocellular Adenoma        | Multiple                 |
|                   | [ Hepatocellular Adenoma TGLs = 2-5, 3-5 ] |                               |                          |
| * Nose            |  | Accumulation, Hyaline Droplet | Mild                     |
|                   | Respirat Epith                             | Hyperplasia                   | Mild                     |
|                   | Olfactory Epi                              | Metaplasia                    | Respiratory, Minimal     |
| * Preputial Gland |  | Inflammation                  | Chronic Active, Moderate |
|                   | [ Inflammation TGLs = 1-8 ]                |                               |                          |
| Tooth             |  | Dysplasia                     | Minimal                  |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 443

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57462

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Preputial Gland
- Tooth
- Epiglottis
- Bronchiole
- Glands, Olfactory Epi
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Dysplasia
- Mild
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Multiple
- Moderate
- Mild
- Mild
- Chronic Active, Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 444

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57463

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Intestine Small, Ileum
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-5 ]
- \* Lung
- \* Nose
- Tooth
- Hyperplasia
- Hemangiosarcoma
- Nephropathy
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Dysplasia
- Minimal
- Mild
- Squamous, Mild
- Mild
- Minimal
- Minimal
- Mild
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 445

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57464

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Mediastinal   | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Testes                 | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

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

OBSERVATIONS

- |          |  |                               |                |
|----------|--|-------------------------------|----------------|
| * Bone   |  | Fibro-Osseous Lesion          | Mild           |
| * Kidney |  | Nephropathy                   | Mild           |
| * Larynx |  | Metaplasia                    | Squamous, Mild |
| * Liver  |  | Hepatocellular Adenoma        | Multiple       |
|          | [ Hepatocellular Adenoma TGLs = 2-5, 3-6 ] |                               |                |
| * Lung   | Bronchiole                                 | Hyperplasia                   | Minimal        |
| * Nose   |  | Accumulation, Hyaline Droplet | Mild           |
|          | Respirat Epith                             | Hyperplasia                   | Mild           |
|          | Glands, Olfactory Epi                      | Hyperplasia                   | Minimal        |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 446

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57465

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 |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                      |  |                               |                |
|----------------------|--|-------------------------------|----------------|
| * Adrenal Cortex     |  | Hyperplasia                   | Minimal        |
| * Kidney             |  | Nephropathy                   | Mild           |
| * Larynx             |  | Metaplasia                    | Squamous, Mild |
| * Liver              |  | Eosinophilic Focus            |                |
|                      |  | Fatty Change                  | Mild           |
|                      |  | Hepatocellular Adenoma        | Multiple       |
|                      | [ Fatty Change TGLs = 3-5 ]                  |                               |                |
|                      | [ Hepatocellular Adenoma TGLs = 1-12, 2-13 ] |                               |                |
| * Lung               | Bronchiole                                   | Hyperplasia                   | Minimal        |
| * Nose               |  | Accumulation, Hyaline Droplet | Minimal        |
| * Stomach, Glandular | Glands                                       | Mineralization                | Minimal        |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 447

TRT#: 5

SEX: Male

DAY ON TEST: 636

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57466

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone
- \* Bone Marrow
- \* 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, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Gallbladder
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Brain
- Inflammation
- Suppurative, Mild
- \* Kidney
- Infarct
- Moderate
- Nephropathy
- Mild
- \* Larynx
- Metaplasia
- Squamous, Mild
- \* Liver
- Fatty Change
- Mild
- Hepatocellular Adenoma
- Hyperplasia
- Mild
- Necrosis
- Mild
- [ Hepatocellular Adenoma TGLs = 2-5 ]
- \* Lung
- Congestion
- Mild
- Bronchiole
- Hyperplasia
- Minimal
- [ Congestion TGLs = 1-4 ]
- \* Nose
- Accumulation, Hyaline Droplet
- Mild
- Glands, Olfactory Epi
- Hyperplasia
- Mild
- Respirat Epith
- Hyperplasia
- Minimal
- Inflammation
- Suppurative, Minimal

PRIMARY CAUSE OF DEATH - Kidney Infarct

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 448

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57467

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- |               |                 |
|---------------|-----------------|
| * Gallbladder | * Mammary Gland |
|---------------|-----------------|

OBSERVATIONS

- |                          |  |                               |                |
|--------------------------|--|-------------------------------|----------------|
| * Intestine Small, Ileum |  | Adenoma                       |                |
| * Kidney                 |  | Nephropathy                   | Mild           |
| * Larynx                 | Epiglottis                               | Fibrosis                      | Minimal        |
|                          |  | Metaplasia                    | Squamous, Mild |
| * Liver                  |  | Basophilic Focus              |                |
|                          |  | Hepatocellular Carcinoma      |                |
|                          | [ Basophilic Focus TGLs = 2-5 ]          |                               |                |
|                          | [ Hepatocellular Carcinoma TGLs = 1-12 ] |                               |                |
| * Nose                   |  | Accumulation, Hyaline Droplet | Minimal        |
|                          | Respirat Epith                           | Hyperplasia                   | Minimal        |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 449

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57468

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Preputial Gland
- Tooth
- Nephropathy
- Metaplasia
- Fatty Change
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Dysplasia
- Inflammation
- Mild
- Squamous, Mild
- Minimal
- Minimal
- Mild
- Minimal
- Minimal
- Chronic Active, Mild
- Mild
- Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 450

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57469

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Spleen
- \* Thymus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Stomach, Forestomach
- \* Thyroid Gland

MISSING

- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Intestine Small, Ileum
  - \* Kidney
  - \* Larynx
  - \* Liver
  - [ Hepatocellular Adenoma TGLs = 2-6 ]
  - \* Lung
  - \* Nose
  - \* Preputial Gland
  - \* Skin
  - [ Fibrous Histiocytoma TGLs = 1-12 ]
- Hyperplasia
  - Inflammation
  - Nephropathy
  - Metaplasia
  - Basophilic Focus
  - Hepatocellular Adenoma
  - Hyperplasia
  - Accumulation, Hyaline Droplet
  - Hyperplasia
  - Inflammation
  - Fibrous Histiocytoma
- Minimal
  - Chronic Active, Mild
  - Mild
  - Squamous, Mild
  - Minimal
  - Mild
  - Mild
  - Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 601

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57320

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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 | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                 | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

- |               |                         |                 |                   |
|---------------|-------------------------|-----------------|-------------------|
| * Gallbladder | * Lymph Node, Bronchial | * Mammary Gland | * Preputial Gland |
|---------------|-------------------------|-----------------|-------------------|

OBSERVATIONS

- |          |                                  |                               |                          |
|----------|----------------------------------|-------------------------------|--------------------------|
| * Bone   | Cranium                          | Inflammation                  | Chronic Active, Mild     |
| * Kidney |                                  | Nephropathy                   | Minimal                  |
| * Larynx | Epiglottis                       | Fibrosis                      | Minimal                  |
|          |                                  | Metaplasia                    | Squamous, Moderate       |
| * Liver  |                                  | Basophilic Focus              |                          |
|          | [ Basophilic Focus TGLs = 3-12 ] |                               |                          |
| * Nose   |                                  | Accumulation, Hyaline Droplet | Mild                     |
|          | Respirat Epith                   | Hyperplasia                   | Mild                     |
|          | Olfactory Epi                    | Metaplasia                    | Respiratory, Minimal     |
| * Skin   |                                  | Inflammation                  | Chronic Active, Moderate |
|          |                                  | Melanoma Benign               |                          |
|          | [ Inflammation TGLs = 2-14 ]     |                               |                          |
|          | [ Melanoma Benign TGLs = 1-13 ]  |                               |                          |
| Tooth    |                                  | Dysplasia                     | Mild                     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 602

TRT#: 7

SEX: Male

DAY ON TEST: 687

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57321

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Thymus
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Lymph Node, Mediastinal
- \* Nose
- Tissue NOS
- Epiglottis
- [ Hepatocellular Carcinoma TGLs = 5-5 ]
- [ Alveolar/Bronchiolar Carcinoma TGLs = 3-4, 4-4 ]
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-3, 2-3 ]
- Respirat Epith
- Glands, Olfactory Epi
- Mediastinum
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Carcinoma
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Hyperplasia
- Alveolar/Bronchiolar Carcinoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Alveolar/Bronchiolar Carcinoma
- Mild
- Minimal
- Squamous, Marked
- Multiple
- Moderate
- Minimal
- Metastatic (Lung)
- Moderate
- Mild
- Mild
- Metastatic (Lung)

PRIMARY CAUSE OF DEATH - Lung Alveolar/Bronchiolar Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 603

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57322

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Heart
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Preputial Gland
- Tooth
- Cranium
- Artery
- Epiglottis
- [ Alveolar/Bronchiolar Carcinoma
- TGLs = 1-4 ]
- Respirat Epith
- Olfactory Epi
- Hyperplasia
- Inflammation
- Nephropathy
- Fibrosis
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Infiltration Cellular
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Metaplasia
- Ectasia
- Dysplasia
- Minimal
- Chronic Active, Moderate
- Chronic Active, Minimal
- Mild
- Minimal
- Squamous, Moderate
- Minimal
- Multiple
- Minimal
- Histiocyte, Minimal
- Moderate
- Minimal
- Suppurative, Minimal
- Respiratory, Minimal
- Mild
- Marked

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 604

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57323

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* 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
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland

OBSERVATIONS

- \* Intestine Small, Ileum
- Inflammation
- Chronic Active, Mild
- \* Intestine Small, Jejunum
- Serosa
- Inflammation
- Granulomatous, Minimal
- \* Kidney
- Nephropathy
- Moderate
- \* Larynx
- Epiglottis
- Fibrosis
- Minimal
- Metaplasia
- Squamous, Moderate
- \* Liver
- Basophilic Focus
- Eosinophilic Focus
- Hepatocellular Adenoma
- Multiple
- Hepatocellular Carcinoma
- [ Hepatocellular Adenoma TGLs = 1-5, 3-6 ]
- [ Hepatocellular Carcinoma TGLs = 2-12 ]
- \* Lung
- Interstitialium
- Inflammation
- Chronic Active, Minimal
- \* Nose
- Accumulation, Hyaline Droplet
- Moderate
- Hyperplasia
- Mild
- \* Preputial Gland
- Ectasia
- Mild
- \* Stomach, Forestomach
- Hyperplasia
- Squamous, Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 605

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57324

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- Tooth
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Necrosis
- Epiglottis
- Bronchiole
- Glands, Olfactory Epi
- Respirat Epith
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Dysplasia
- Mild
- Minimal
- Squamous, Moderate
- Minimal
- Multiple
- Minimal
- Minimal
- Moderate
- Mild
- Minimal
- Chronic Active, Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 606

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57325

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Pituitary Gland

OBSERVATIONS

- \* Bone
  - Fibro-Osseous Lesion
  - Minimal
- \* Kidney
  - Cranium
  - Inflammation
  - Chronic Active, Moderate
- \* Larynx
  - Nephropathy
  - Mild
  - Fibrosis
  - Minimal
  - Metaplasia
  - Squamous, Moderate
- \* Liver
  - Hepatocellular Adenoma
  - Multiple
  - Necrosis
  - Mild
- \* Nose
  - [ Hepatocellular Adenoma TGLs = 2-5, 3-6 ]
  - Accumulation, Hyaline Droplet
  - Moderate
  - Glands, Olfactory Epi
  - Hyperplasia
  - Mild
  - Inflammation
  - Suppurative, Moderate
  - Ectasia
  - Moderate
- \* Preputial Gland
  - [ Ectasia TGLs = 1-8 ]
- Skeletal Muscle
  - Inflammation
  - Chronic Active, Moderate
- Tooth
  - Dysplasia
  - Marked

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 607

TRT#: 7

SEX: Male

DAY ON TEST: 623

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57326

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Prostate
- \* Spleen
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Lymph Node, Bronchial
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

AUTO PRECLUDES DIAG.

- \* Intestine Small, Duodenum
- \* Intestine Small, Ileum

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Thymus
- Epiglottis
- Adenoma
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Carcinoma
- Necrosis
- Alveolar/Bronchiolar Adenoma
- Accumulation, Hyaline Droplet
- Atrophy
- Minimal
- Minimal
- Squamous, Marked
- Multiple
- Moderate
- Mild
- Mild

[ Hepatocellular Carcinoma TGLs = 2-13, 3-14, 4-15 ]

[ Alveolar/Bronchiolar Adenoma TGLs = 1-12 ]

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 608

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57327

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                |
| * Pituitary Gland           | * Preputial Gland         | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                    | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                  | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder         |                            |                           |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                  |  |                               |                    |
|------------------|--|-------------------------------|--------------------|
| * Adrenal Cortex |  | Hyperplasia                   | Minimal            |
| * Bone           |  | Fibro-Osseous Lesion          | Minimal            |
| * Kidney         | Renal Tubule                                 | Adenoma                       |                    |
|                  |  | Nephropathy                   | Mild               |
| * Larynx         |  | Metaplasia                    | Squamous, Moderate |
| * Liver          |  | Fatty Change                  | Mild               |
|                  |  | Hepatocellular Adenoma        | Multiple           |
|                  | [ Hepatocellular Adenoma TGLs = 1-12, 2-13 ] |                               |                    |
| * Lung           | Bronchiole                                   | Hyperplasia                   | Mild               |
|                  | Alveolar Epith                               | Hyperplasia                   | Minimal            |
| * Nose           |  | Accumulation, Hyaline Droplet | Moderate           |
|                  | Respirat Epith                               | Hyperplasia                   | Mild               |
|                  | Glands, Olfactory Epi                        | Hyperplasia                   | Mild               |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 609

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57328

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Pituitary Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Medulla
- \* Kidney
- \* Larynx
- \* Liver
- [ Basophilic Focus TGLs = 4-5 ]
- [ Hepatocellular Adenoma TGLs = 2-12, 5-13 ]
- [ Hepatocellular Carcinoma TGLs = 1-6 ]
- \* Lung
- [ Alveolar/Bronchiolar Carcinoma TGLs = 3-4 ]
- \* Nose
- \* Testes
- Hyperplasia
- Nephropathy
- Metaplasia
- Basophilic Focus
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Tension Lipidosis
- Alveolar/Bronchiolar Carcinoma
- Accumulation, Hyaline Droplet
- Glands, Olfactory Epi
- Respirat Epith
- Germinal Epith
- Minimal
- Mild
- Squamous, Moderate
- Minimal
- Multiple
- Mild
- Moderate
- Mild
- Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 609

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 100 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57328

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Tooth

Dysplasia  
Inflammation

Mild  
Chronic Active, Minimal

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 610

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57329

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Harderian Gland
- \* Kidney
- [ Cyst TGLs = 2-6 ]
- \* Larynx
- \* Liver
- \* Lung
- [ Alveolar/Bronchiolar Carcinoma TGLs = 3-4, 5-4 ]
- [ Infiltration Cellular TGLs = 4-4 ]
- \* Nose
- Tooth
- Hyperplasia
- Hyperplasia
- Cyst
- Nephropathy
- Fibrosis
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Alveolar/Bronchiolar Carcinoma
- Bronchiole
- Hyperplasia
- Infiltration Cellular
- Accumulation, Hyaline Droplet
- Glands, Olfactory Epi
- Respirat Epith
- Hyperplasia
- Hyperplasia
- Dysplasia
- Minimal
- Moderate
- Moderate
- Mild
- Minimal
- Squamous, Marked
- Minimal
- Multiple
- Minimal
- Histiocyte, Mild
- Moderate
- Minimal
- Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 611

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57330

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* 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	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Mammary Gland
-------------------------	-----------------

OBSERVATIONS

* Adrenal Cortex	Subcapsular	Adenoma	
* Harderian Gland		Adenoma	
	[ Adenoma TGLs = 1-11 ]		
* Kidney		Cyst	Minimal
		Nephropathy	Mild
* Larynx	Epiglottis	Fibrosis	Minimal
		Inflammation	Chronic Active, Minimal
		Metaplasia	Squamous, Marked
* Liver		Basophilic Focus	
		Fatty Change	Mild
		Hepatocellular Adenoma	
	[ Basophilic Focus TGLs = 3-13, 4-14 ]		
	[ Hepatocellular Adenoma TGLs = 5-12 ]		
* Lung	Bronchiole	Hyperplasia	Minimal
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 2-15 ]		
* Nose		Accumulation, Hyaline Droplet	Moderate
	Glands, Olfactory Epi	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 611

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57330

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Hyperplasia	Minimal
		Inflammation	Chronic Active, Mild
		Necrosis	Minimal
* Pituitary Gland	Pars Distalis	Cyst	Minimal
Tooth		Dysplasia	Mild

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 612

TRT#: 7

SEX: Male

DAY ON TEST: 607

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57331

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                          |                          |                           |
|--------------------------|--------------------------|--------------------------|---------------------------|
| * Adrenal Cortex         | * Adrenal Medulla        | * Bone                   | * Bone Marrow             |
| * Brain                  | * Epididymis             | * Esophagus              | * Gallbladder             |
| * Heart                  | * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Ileum | * Islets, Pancreatic     | * Lymph Node, Bronchial  | * Lymph Node, Mesenteric  |
| * Pancreas               | * Pituitary Gland        | * Preputial Gland        | * Prostate                |
| * Salivary Glands        | * Seminal Vesicle        | * Skin                   | * Spleen                  |
| * Stomach, Forestomach   | * Stomach, Glandular     | * Testes                 | * Thymus                  |
| * Thyroid Gland          | * Urinary Bladder        |                          |                           |

MISSING

- |                          |                           |                 |                     |
|--------------------------|---------------------------|-----------------|---------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|--------------------------|---------------------------|-----------------|---------------------|

AUTO PRECLUDES DIAG.

- |                             |                            |
|-----------------------------|----------------------------|
| * Intestine Small, Duodenum | * Intestine Small, Jejunum |
|-----------------------------|----------------------------|

OBSERVATIONS

- |                   |   |                                |                         |
|-------------------|---|--------------------------------|-------------------------|
| * Eye             | Cornea  | Hyperplasia                    | Squamous, Minimal       |
|                   | [ Hyperplasia TGLs = 1-11 ]                   |                                |                         |
| * Harderian Gland |   | Adenoma                        |                         |
|                   | [ Adenoma TGLs = 4-11 ]                       |                                |                         |
| * Kidney          |   | Nephropathy                    | Mild                    |
| * Larynx          | Epiglottis                                    | Fibrosis                       | Minimal                 |
|                   |   | Inflammation                   | Chronic Active, Minimal |
|                   |   | Metaplasia                     | Squamous, Marked        |
| * Liver           |   | Hepatocellular Carcinoma       |                         |
|                   | [ Hepatocellular Carcinoma TGLs = 3-12 ]      | Tension Lipidosis              | Minimal                 |
| * Lung            |   | Alveolar/Bronchiolar Carcinoma |                         |
|                   | Bronchiole                                    | Hyperplasia                    | Minimal                 |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ] |                                |                         |
| * Nose            |   | Accumulation, Hyaline Droplet  | Moderate                |
|                   | Respirat Epith                                | Hyperplasia                    | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 612

TRT#: 7

SEX: Male

DAY ON TEST: 607

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57331

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Trachea	Glands, Olfactory Epi	Hyperplasia Metaplasia	Mild Squamous, Minimal
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PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 613

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57332

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Epididymis
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- Tooth
- Epiglottis
- Respirat Epith
- Glands, Olfactory Epi
- Olfactory Epi
- Hyperplasia
- Inflammation
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Metaplasia
- Dysplasia
- Moderate
- Chronic Active, Mild
- Mild
- Minimal
- Squamous, Moderate
- Multiple
- Minimal
- Moderate
- Mild
- Mild
- Respiratory, Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 614

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57333

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                            |                           |                             |
|---------------------------|----------------------------|---------------------------|-----------------------------|
| * 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 | * Islets, Pancreatic      | * Liver                     |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                | * Parathyroid Gland         |
| * Preputial Gland         | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                    | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Testes                  | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder         |                            |                           |                             |

**MISSING**

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

**OBSERVATIONS**

- |                   |             |                               |                    |
|-------------------|-------------|-------------------------------|--------------------|
| * Adrenal Cortex  | Subcapsular | Adenoma                       |                    |
|                   |             | Hyperplasia                   | Mild               |
| * Adrenal Medulla |             | Hyperplasia                   | Mild               |
| * Kidney          |             | Nephropathy                   | Mild               |
| * Larynx          | Epiglottis  | Fibrosis                      | Minimal            |
|                   |             | Metaplasia                    | Squamous, Moderate |
| * Lung            | Bronchiole  | Hyperplasia                   | Mild               |
| * Nose            |             | Accumulation, Hyaline Droplet | Mild               |
| * Pituitary Gland |             | Angiectasis                   | Minimal            |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 615

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57334

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- Peripheral Nerve
- \* Seminal Vesicle
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- Skeletal Muscle
- \* Stomach, Glandular
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Prostate
- Spinal Cord
- \* Testes
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Salivary Glands
- \* Spleen
- \* Thymus

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Basophilic Focus TGLs = 1-6 ]
- \* Lung
- \* Nose
- \* Preputial Gland
- \* Skin
- Tooth
- Epiglottis
- Bronchiole
- Respirat Epith
- Glands, Olfactory Epi
- Epidermis
- Hyperplasia
- Nephropathy
- Fibrosis
- Inflammation
- Metaplasia
- Basophilic Focus
- Fatty Change
- Necrosis
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Hyperplasia
- Dysplasia
- Minimal
- Mild
- Minimal
- Chronic Active, Minimal
- Squamous, Moderate
- Minimal
- Minimal
- Minimal
- Mild
- Mild
- Mild
- Chronic Active, Minimal
- Minimal
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 616

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57335

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 |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland         | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle         | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular      | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                  |                       |                               |                      |
|------------------|-----------------------|-------------------------------|----------------------|
| * Adrenal Cortex |                       | Hyperplasia                   | Minimal              |
| * Kidney         |                       | Nephropathy                   | Mild                 |
| * Larynx         | Epiglottis            | Fibrosis                      | Minimal              |
|                  |                       | Metaplasia                    | Squamous, Moderate   |
| * Liver          |                       | Fatty Change                  | Minimal              |
| * Lung           | Bronchiole            | Hyperplasia                   | Minimal              |
| * Nose           |                       | Accumulation, Hyaline Droplet | Moderate             |
|                  | Respirat Epith        | Hyperplasia                   | Minimal              |
|                  | Glands, Olfactory Epi | Hyperplasia                   | Mild                 |
|                  |                       | Inflammation                  | Suppurative, Minimal |
| Tooth            |                       | Dysplasia                     | Minimal              |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 617

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57336

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Bronchial     | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                |
| * Parathyroid Gland         | * Pituitary Gland         | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle         | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular      | * Testes                   | * Thymus                  |
| * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |                           |

MISSING

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

OBSERVATIONS

- |                  |                       |   |                         |
|------------------|-----------------------|---|-------------------------|
| * Adrenal Cortex |                       | Hyperplasia                             | Mild                    |
| * Bone           |                       | Fibro-Osseous Lesion                    | Minimal                 |
| * Kidney         |                       | Nephropathy                             | Mild                    |
| * Larynx         | Epiglottis            | Fibrosis                                | Minimal                 |
|                  |                       | Inflammation                            | Chronic Active, Minimal |
|                  |                       | Metaplasia                              | Squamous, Moderate      |
| * Liver          |                       | Eosinophilic Focus                      |                         |
|                  |                       | Fatty Change                            | Minimal                 |
|                  |                       | Hepatocellular Carcinoma                |                         |
|                  |                       | [ Eosinophilic Focus TGLs = 3-12 ]      |                         |
|                  |                       | [ Hepatocellular Carcinoma TGLs = 1-5 ] |                         |
| * Lung           | Bronchiole            | Hyperplasia                             | Minimal                 |
| * Nose           |                       | Accumulation, Hyaline Droplet           | Moderate                |
|                  | Respirat Epith        | Hyperplasia                             | Mild                    |
|                  | Glands, Olfactory Epi | Hyperplasia                             | Mild                    |
| Tooth            |                       | Dysplasia                               | Mild                    |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 618

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57337

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Skin
- \* Testes
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Prostate
- \* Spleen
- \* Thymus
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Eye
  - [ Inflammation TGLs = 1-11 ]
- \* Harderian Gland
  - [ Carcinoma TGLs = 2-11 ]
- \* Kidney
- \* Larynx
- \* Liver
  - [ Basophilic Focus TGLs = 4-13 ]
  - [ Eosinophilic Focus TGLs = 3-12 ]
- \* Lung
- \* Nose
- Lens
- Cornea
- Epiglottis
- Bronchiole
- Hyperplasia
- Degeneration
- Inflammation
- Carcinoma
- Infarct
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Eosinophilic Focus
- Fatty Change
- Hyperplasia
- Infiltration Cellular
- Accumulation, Hyaline Droplet
- Mild
- Minimal
- Chronic Active, Minimal
- Mild
- Mild
- Minimal
- Squamous, Marked
- Mild
- Minimal
- Histiocyte, Minimal
- Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 618

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57337

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Turbinate	Atrophy	Minimal
	Glands, Olfactory Epi	Hyperplasia	Minimal
* Preputial Gland		Inflammation	Chronic Active, Moderate

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 619

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57338

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Preputial Gland
- \* Spleen
- \* Thyroid Gland
- \* Bone
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Stomach, Glandular
- \* Trachea
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Salivary Glands
- \* Testes
- \* Urinary Bladder
- \* Epididymis
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Thymus

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone Marrow
- \* Heart
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- Hyperplasia
- Mast Cell Tumor Malignant
- Cardiomyopathy
- Mast Cell Tumor Malignant
- Thrombosis
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Eosinophilic Focus
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Infiltration Cellular
- Inflammation
- Accumulation, Hyaline Droplet
- Hyperplasia
- Mild
- Metastatic (Skin)
- Mild
- Metastatic (Skin)
- Mild
- Moderate
- Minimal
- Squamous, Moderate
- Histiocyte, Moderate
- Chronic Active, Moderate
- Moderate
- Minimal

[ Mast Cell Tumor Malignant TGLs = 1-5 ]

[ Hepatocellular Adenoma TGLs = 3-13 ]

[ Hepatocellular Carcinoma TGLs = 2-12 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 619

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57338

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Respirat Epith

Hyperplasia

Mild

\* Skin

Mast Cell Tumor Malignant

\* Stomach, Forestomach

Hyperplasia

Squamous, Marked

---



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 620

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57339

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * 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 | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Pancreas                 | * Pituitary Gland         | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Testes                    |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

- |                     |                         |                           |                 |
|---------------------|-------------------------|---------------------------|-----------------|
| * Gallbladder       | * Lymph Node, Bronchial | * Lymph Node, Mediastinal | * Mammary Gland |
| * Parathyroid Gland |                         |                           |                 |

OBSERVATIONS

- |                  |                                       |                               |                                     |
|------------------|---------------------------------------|-------------------------------|-------------------------------------|
| * Adrenal Cortex | Subcapsular                           | Adenoma                       |                                     |
| * Bone           |                                       | Fibro-Osseous Lesion          | Minimal                             |
| * Kidney         |                                       | Cyst                          | Minimal                             |
|                  |                                       | Nephropathy                   | Mild                                |
| * Larynx         | Epiglottis                            | Fibrosis                      | Minimal                             |
|                  |                                       | Metaplasia                    | Squamous, Moderate                  |
| * Liver          |                                       | Eosinophilic Focus            |                                     |
|                  |                                       | Fatty Change                  | Minimal                             |
|                  |                                       | Hepatocellular Adenoma        |                                     |
|                  | [ Eosinophilic Focus TGLs = 1-5 ]     |                               |                                     |
|                  | [ Hepatocellular Adenoma TGLs = 2-5 ] |                               |                                     |
| * Lung           | Bronchiole                            | Hyperplasia                   | Mild                                |
|                  |                                       | Mast Cell Tumor Malignant     | Metastatic (Uncertain Primary Site) |
| * Nose           |                                       | Accumulation, Hyaline Droplet | Moderate                            |
|                  | Respirat Epith                        | Hyperplasia                   | Mild                                |
|                  | Glands, Olfactory Epi                 | Hyperplasia                   | Mild                                |
| Tooth            |                                       | Dysplasia                     | Minimal                             |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 621

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57340

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Testes
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Preputial Gland
- \* Spleen
- \* Thymus
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Prostate
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Eye
  - [ Inflammation TGLs = 1-11 ]
- \* Harderian Gland
  - [ Carcinoma TGLs = 2-11 ]
- \* Kidney
- \* Larynx
- \* Liver
  - [ Fatty Change TGLs = 8-13 ]
  - [ Hepatocellular Adenoma TGLs = 6-14, 7-15 ]
- \* Lung
  - [ Alveolar/Bronchiolar Carcinoma Multiple ]
  - [ Hyperplasia Minimal ]
  - [ Hyperplasia Mild ]
  - [ Infiltration Cellular Histiocyte, Mild ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 621

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57340

ORGAN AND ACCOUNTABLE SITE STATUS

* Nose	[ Alveolar/Bronchiolar Carcinoma TGLs = 3-12, 4-4 ]	Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
	Olfactory Epi	Metaplasia	Respiratory, Minimal
* Skin	[ Hemangiosarcoma TGLs = 9-16 ]	Hemangiosarcoma	

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 622

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57341

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Gallbladder
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-6 ]
- [ Tension Lipidosis TGLs = 2-5 ]
- \* Lung
- \* Nose
- \* Stomach, Glandular
- \* Testes
- Adenoma
- Fibro-Osseous Lesion
- Inflammation
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Mixed Cell Focus
- Tension Lipidosis
- Epiglottis
- Bronchiole
- Respirat Epith
- Glands, Olfactory Epi
- Germinal Epith
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Atrophy
- Minimal
- Suppurative, Minimal
- Mild
- Minimal
- Squamous, Moderate
- Minimal
- Minimal
- Minimal
- Mild
- Mild
- Mild
- Chronic Active, Moderate
- Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 623

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57342

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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 | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Testes                    | * Thymus                 | * Thyroid Gland            |
| * Trachea                 |                             |                          |                            |

**MISSING**

- |                         |                 |                   |
|-------------------------|-----------------|-------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Urinary Bladder |
|-------------------------|-----------------|-------------------|

**OBSERVATIONS**

- |                           |   |                                |                          |
|---------------------------|---|--------------------------------|--------------------------|
| * Bone                    | Cranium                                       | Inflammation                   | Chronic Active, Moderate |
| * Kidney                  |   | Nephropathy                    | Moderate                 |
| * Larynx                  | Epiglottis                                    | Fibrosis                       | Minimal                  |
|                           |   | Inflammation                   | Chronic Active, Minimal  |
|                           |   | Metaplasia                     | Squamous, Marked         |
| * Liver                   |   | Tension Lipidosis              | Moderate                 |
| * Lung                    | Bronchiole                                    | Alveolar/Bronchiolar Carcinoma |                          |
|                           |   | Hyperplasia                    | Minimal                  |
|                           |   | Infiltration Cellular          | Histiocyte, Moderate     |
|                           | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ] |                                |                          |
| * Lymph Node, Mediastinal |   | Lymphoma Malignant             |                          |
| * Nose                    |   | Accumulation, Hyaline Droplet  | Moderate                 |
|                           | Respirat Epith                                | Hyperplasia                    | Mild                     |
|                           | Glands, Olfactory Epi                         | Hyperplasia                    | Minimal                  |
| * Spleen                  |   | Lymphoma Malignant             |                          |
| Tooth                     |   | Dysplasia                      | Mild                     |
|                           |   | Inflammation                   | Chronic Active, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 624

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57343

**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
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Bronchial	* Mammary Gland	* Parathyroid Gland
-------------------------	-----------------	---------------------

**OBSERVATIONS**

* Adrenal Cortex	Subcapsular	Adenoma	
		Hyperplasia	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Fibrosis	Minimal
		Inflammation	Chronic Active, Minimal
		Metaplasia	Squamous, Marked
* Liver		Fatty Change	Focal, Minimal
		Hepatocellular Adenoma	Multiple
		Tension Lipidosis	Minimal
	[ Fatty Change TGLs = 5-12 ]		
	[ Hepatocellular Adenoma TGLs = 3-13, 4-14 ]		
* Lung	Bronchiole	Hyperplasia	Minimal
* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
	Glands, Olfactory Epi	Hyperplasia	Minimal
		Inflammation	Suppurative, Minimal
* Skin		Inflammation	Chronic Active, Moderate
	[ Inflammation TGLs = 1-15 ]		

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 624

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57343

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

[ Lymphoma Malignant TGLs = 2-5 ]

Lymphoma Malignant

Tooth

Dysplasia

Moderate

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 625

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57344

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 |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mesenteric | * Pancreas                 |
| * Pituitary Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

- |                          |                           |                 |                     |
|--------------------------|---------------------------|-----------------|---------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|--------------------------|---------------------------|-----------------|---------------------|

OBSERVATIONS

- |                   |                                       |                               |                  |
|-------------------|---------------------------------------|-------------------------------|------------------|
| * Adrenal Cortex  |                                       | Hyperplasia                   | Mild             |
| * Kidney          |                                       | Nephropathy                   | Mild             |
| * Larynx          | Epiglottis                            | Fibrosis                      | Minimal          |
|                   |                                       | Metaplasia                    | Squamous, Marked |
| * Liver           |                                       | Basophilic Focus              |                  |
|                   |                                       | Hepatocellular Adenoma        |                  |
|                   | [ Basophilic Focus TGLs = 3-6 ]       |                               |                  |
|                   | [ Hepatocellular Adenoma TGLs = 2-5 ] |                               |                  |
| * Lung            |                                       | Alveolar/Bronchiolar Adenoma  |                  |
|                   | Alveolar Epith                        | Hyperplasia                   | Moderate         |
|                   | Bronchiole                            | Hyperplasia                   | Minimal          |
| * Nose            |                                       | Accumulation, Hyaline Droplet | Mild             |
|                   | Respirat Epith                        | Hyperplasia                   | Mild             |
|                   | Glands, Olfactory Epi                 | Hyperplasia                   | Mild             |
| * Preputial Gland |                                       | Ectasia                       | Moderate         |
|                   | [ Ectasia TGLs = 1-12 ]               |                               |                  |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 626

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57345

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- Epiglottis
- Bronchiole
- [ Hepatocellular Adenoma TGLs = 2-14 ]
- [ Hepatocellular Carcinoma TGLs = 1-15 ]
- [ Alveolar/Bronchiolar Carcinoma TGLs = 3-13 ]
- [ Hepatocellular Carcinoma TGLs = 4-12 ]
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Necrosis
- Alveolar/Bronchiolar Adenoma
- Alveolar/Bronchiolar Carcinoma
- Hepatocellular Carcinoma
- Hyperplasia
- Infiltration Cellular
- Accumulation, Hyaline Droplet
- Minimal
- Moderate
- Minimal
- Squamous, Moderate
- Minimal
- Mild
- Metastatic (Liver)
- Minimal
- Histiocyte, Mild
- Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 626

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57345

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

	Respirat Epith	Hyperplasia	Minimal
	Glands, Olfactory Epi	Hyperplasia	Mild
Tooth		Dysplasia	Minimal

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 627

TRT#: 7

SEX: Male

DAY ON TEST: 706

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57346

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Preputial Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Testes
- \* Thyroid Gland
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Thymus

OBSERVATIONS

- \* Esophagus
  - \* Kidney
  - \* Larynx
  - \* Liver
  - \* Lung
  - \* Nose
- [ Hepatocellular Carcinoma TGLs = 2-6 ]
- [ Hepatocellular Carcinoma TGLs = 1-4 ]
- Squamous Cell Papilloma
  - Nephropathy
  - Fibrosis
  - Inflammation
  - Metaplasia
  - Hepatocellular Carcinoma
  - Hepatocellular Carcinoma
  - Hyperplasia
  - Accumulation, Hyaline Droplet
  - Atrophy
  - Atrophy
  - Hyperplasia
  - Hyperplasia
  - Inflammation
  - Metaplasia
  - Necrosis
- Mild
  - Minimal
  - Chronic Active, Minimal
  - Squamous, Marked
  - Metastatic (Liver)
  - Minimal
  - Mild
  - Mild
  - Minimal
  - Minimal
  - Mild
  - Suppurative, Moderate
  - Respiratory, Minimal
  - Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 627

TRT#: 7

SEX: Male

DAY ON TEST: 706

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57346

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dysplasia

Mild

\* Trachea

Metaplasia

Squamous, Minimal

---

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 628

TRT#: 7

SEX: Male

DAY ON TEST: 572

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57347

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Kidney
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Spleen
- \* Thymus

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Heart
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Pancreas
- Hyperplasia
- Thrombosis
- Fibrosis
- Inflammation
- Metaplasia
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Hemorrhage
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Necrosis
- Minimal
- Moderate
- Minimal
- Chronic Active, Minimal
- Squamous, Marked
- Multiple
- Moderate
- Minimal
- Moderate
- Minimal
- Minimal
- Mild

PRIMARY CAUSE OF DEATH - Heart Thrombosis

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 629

TRT#: 7

SEX: Male

DAY ON TEST: 662

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57348

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Mesentery
- \* Nose
- Nephropathy
- Fibrosis
- Inflammation
- Metaplasia
- Necrosis
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Necrosis
- Hyperplasia
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Minimal
- Minimal
- Chronic Active, Minimal
- Squamous, Marked
- Minimal
- Multiple
- Multiple
- Mild
- Minimal
- Minimal
- Moderate
- Minimal
- Minimal

[ Hepatocellular Adenoma TGLs = 3-5, 4-6 ]

[ Hepatocellular Carcinoma TGLs = 2-13, 5-12 ]

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 630

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57349

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                           |
|----------------------------|---------------------------|-----------------------------|---------------------------|
| * Adrenal Cortex           | * 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 | * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric   | * Pancreas                | * Pituitary Gland           | * Preputial Gland         |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Spleen                  |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Testes                    | * Thymus                  |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                           |

MISSING

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

OBSERVATIONS

- |           |  |                               |                          |
|-----------|--|-------------------------------|--------------------------|
| * Kidney  |  | Nephropathy                   | Moderate                 |
| * Larynx  | Epiglottis   | Fibrosis                      | Minimal                  |
|           |  | Metaplasia                    | Squamous, Marked         |
| * Liver   |  | Hepatocellular Adenoma        | Multiple                 |
|           | [ Hepatocellular Adenoma TGLs = 1-12, 2-13, 3-14, 4-15 ] |                               |                          |
| * Lung    | Bronchiole   | Hyperplasia                   | Minimal                  |
| Mesentery | Artery   | Inflammation                  | Chronic Active, Moderate |
| * Nose    |  | Accumulation, Hyaline Droplet | Moderate                 |
|           | Respirat Epith   | Hyperplasia                   | Mild                     |
| * Skin    |  | Inflammation                  | Chronic Active, Mild     |
|           | [ Inflammation TGLs = 5-16 ]                             |                               |                          |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 631

TRT#: 7

SEX: Male

DAY ON TEST: 344

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57350

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Harderian Gland
- \* Kidney
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Bone
- \* Esophagus
- \* Heart
- \* Lymph Node, Bronchial
- \* Preputial Gland
- \* Skin
- \* Testes

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Lymph Node, Mandibular
- \* Prostate
- \* Spleen
- \* Thymus

- \* Brain
- \* Gallbladder
- \* Islets, Pancreatic
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland

MISSING

- \* Lymph Node, Mediastinal

- \* Lymph Node, Mesenteric

- \* Mammary Gland

- \* Parathyroid Gland

AUTO PRECLUDES DIAG.

- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum

- \* Intestine Large, Rectum

- \* Intestine Small, Duodenum

- \* Intestine Small, Ileum

OBSERVATIONS

- \* Adrenal Cortex
- \* Larynx

Epiglottis

Hyperplasia

Mild

Fibrosis

Minimal

Metaplasia

Squamous, Marked

- \* Liver

[ Hepatocellular Carcinoma TGLs = 1-6 ]

Hepatocellular Carcinoma

- \* Lung

Bronchiole

Hyperplasia

Minimal

- \* Nose

Accumulation, Hyaline Droplet

Moderate

Respirat Epith

Hyperplasia

Minimal

Glands, Olfactory Epi

Hyperplasia

Minimal

- \* Trachea

Metaplasia

Squamous, Minimal

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 632

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57351

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                |
| * Pituitary Gland           | * Preputial Gland         | * Prostate                 | * Salivary Glands         |
| * Seminal Vesicle           | * Skin                    | * Spleen                   | * Stomach, Forestomach    |
| * Testes                    | * Thymus                  | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                           |                            |                           |

MISSING

- |                         |                 |                     |
|-------------------------|-----------------|---------------------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                      |  |                                |                  |
|----------------------|--|--------------------------------|------------------|
| * Adrenal Cortex     | Subcapsular  | Adenoma                        |                  |
| * Bone               | [ Fibro-Osseous Lesion TGLs = 1-10 ]                 | Fibro-Osseous Lesion           | Mild             |
| * Kidney             |  | Nephropathy                    | Mild             |
| * Larynx             | Epiglottis   | Fibrosis                       | Minimal          |
|                      |  | Metaplasia                     | Squamous, Marked |
| * Liver              |  | Basophilic Focus               |                  |
|                      |  | Tension Lipidosis              | Minimal          |
| * Lung               |  | Alveolar/Bronchiolar Carcinoma | Multiple         |
|                      | Alveolar Epith                                       | Hyperplasia                    | Moderate         |
|                      | Bronchiole   | Hyperplasia                    | Minimal          |
|                      | [ Alveolar/Bronchiolar Carcinoma TGLs = 3-13, 4-14 ] |                                |                  |
|                      | [ Hyperplasia TGLs = 2-12 ]                          |                                |                  |
| * Nose               |  | Accumulation, Hyaline Droplet  | Moderate         |
|                      | Respirat Epith                                       | Hyperplasia                    | Minimal          |
|                      | Glands, Olfactory Epi                                | Hyperplasia                    | Mild             |
| * Stomach, Glandular | Glands   | Mineralization                 | Minimal          |
| Tooth                |  | Dysplasia                      | Mild             |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 633

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57352

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 |
| * Islets, Pancreatic      | * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Testes                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

- |                         |                          |                 |          |
|-------------------------|--------------------------|-----------------|----------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Mammary Gland | * Thymus |
|-------------------------|--------------------------|-----------------|----------|

OBSERVATIONS

- |                  |  |                               |                    |
|------------------|--|-------------------------------|--------------------|
| * Adrenal Cortex |  | Hyperplasia                   | Minimal            |
| * Kidney         |  | Cyst                          | Minimal            |
|                  |  | Nephropathy                   | Mild               |
| * Larynx         | Epiglottis                             | Fibrosis                      | Minimal            |
|                  |  | Metaplasia                    | Squamous, Moderate |
| * Liver          |  | Fatty Change                  | Minimal            |
|                  |  | Hepatocellular Adenoma        |                    |
|                  | [ Hepatocellular Adenoma TGLs = 1-12 ] |                               |                    |
| * Lung           | Bronchiole                             | Hyperplasia                   | Minimal            |
| * Nose           |  | Accumulation, Hyaline Droplet | Moderate           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 634

TRT#: 7

SEX: Male

DAY ON TEST: 661

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57353

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Bronchial
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Pituitary Gland
- \* Prostate
- \* Salivary Glands
- \* Seminal Vesicle
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Urinary Bladder
- \* Trachea

MISSING

- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- Metaplasia Squamous, Marked
- \* Liver [ Hepatocellular Adenoma TGLs = 7-5 ] Hepatocellular Adenoma
- \* Lung Alveolar/Bronchiolar Carcinoma Multiple
- Bronchiole Hyperplasia Minimal
- Infiltration Cellular Histiocyte, Mild
- [ Alveolar/Bronchiolar Carcinoma TGLs = 3-4, 4-4 ]
- [ Infiltration Cellular TGLs = 5-4 ]
- \* Nose Accumulation, Hyaline Droplet Mild
- Respirat Epith Hyperplasia Mild
- Glands, Olfactory Epi Hyperplasia Mild
- Inflammation Suppurative, Minimal
- Penis Congestion Mild
- [ Congestion TGLs = 1-6 ]
- \* Preputial Gland Ectasia Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 634

TRT#: 7

SEX: Male

DAY ON TEST: 661

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57353

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Testes

Angiectasis

Moderate

[ Angiectasis TGLs = 2-8 ]

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PRIMARY CAUSE OF DEATH

- Lung Alveolar/Bronchiolar Carcinoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 635

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57354

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- \* Lung
- Mesentery
- [ Necrosis TGLs = 2-13 ]
- \* Nose
- \* Stomach, Glandular
- Epiglottis
- Bronchiole
- Fat
- Respirat Epith Glands, Olfactory Epi
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Alveolar/Bronchiolar Adenoma
- Hyperplasia
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Minimal
- Mild
- Minimal
- Squamous, Marked
- Minimal
- Moderate
- Minimal
- Mild
- Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 636

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57355

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Preputial Gland
- Tooth
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 1-12 ]
- Bronchiole
- Glands, Olfactory Epi
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Dysplasia
- Mild
- Moderate
- Minimal
- Squamous, Moderate
- Minimal
- Minimal
- Mild
- Mild
- Chronic Active, Minimal
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 637

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57356

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Basophilic Focus TGLs = 2-12, 3-13 ]
- [ Fatty Change TGLs = 4-14, 5-15 ]
- [ Hepatocellular Adenoma TGLs = 1-5, 8-16 ]
- \* Lung
- \* Nose
- Tooth
- Epiglottis
- Bronchiole
- Alveolar Epith
- Glands, Olfactory Epi
- Respirat Epith
- Olfactory Epi
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Inflammation
- Metaplasia
- Dysplasia
- Minimal
- Mild
- Minimal
- Squamous, Marked
- Mild
- Multiple
- Minimal
- Moderate
- Mild
- Minimal
- Mild
- Suppurative, Minimal
- Respiratory, Mild
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 638

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57357

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                             |                           |                               |                      |
|-----------------------------|---------------------------|-------------------------------|----------------------|
| * Heart                     |                           | Cardiomyopathy                | Mild                 |
| * Intestine Small, Duodenum |                           | Carcinoma                     |                      |
|                             | [ Carcinoma TGLs = 1-12 ] |                               |                      |
| * Islets, Pancreatic        |                           | Adenoma                       |                      |
| * Kidney                    |                           | Nephropathy                   | Mild                 |
| * Larynx                    | Epiglottis                | Fibrosis                      | Minimal              |
|                             |                           | Metaplasia                    | Squamous, Moderate   |
| * Liver                     |                           | Basophilic Focus              |                      |
| * Lung                      |                           | Alveolar/Bronchiolar Adenoma  |                      |
|                             | Bronchiole                | Hyperplasia                   | Minimal              |
| * Nose                      |                           | Accumulation, Hyaline Droplet | Mild                 |
|                             | Respirat Epith            | Hyperplasia                   | Minimal              |
|                             |                           | Inflammation                  | Suppurative, Minimal |
| Tooth                       |                           | Dysplasia                     | Mild                 |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 639

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57358

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Eosinophilic Focus TGLs = 4-14 ]
- [ Hepatocellular Adenoma TGLs = 1-12, 2-5, 3-13 ]
- \* Lung
- \* Nose
- Tooth
- Epiglottis
- Bronchiole
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Eosinophilic Focus
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Dysplasia
- Minimal
- Mild
- Minimal
- Squamous, Moderate
- Multiple
- Minimal
- Mild
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 640

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57359

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Preputial Gland
- Tooth
- Epiglottis
- Bronchiole
- Respirat Epith
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Dysplasia
- Mild
- Minimal
- Squamous, Moderate
- Mild
- Minimal
- Mild
- Mild
- Chronic Active, Marked
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 641

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57360

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                            |                           |                             |
|---------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla         | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis              | * Esophagus                | * Eye                     | * 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, Mediastinal | * Lymph Node, Mesenteric   | * Pancreas                | * Preputial Gland           |
| * Prostate                | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                  | * Stomach, Forestomach     | * Stomach, Glandular      | * Testes                    |
| * Thymus                  | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

- |               |                         |                 |                     |
|---------------|-------------------------|-----------------|---------------------|
| * Gallbladder | * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland |
|---------------|-------------------------|-----------------|---------------------|

OBSERVATIONS

- |                   |  |                               |                  |
|-------------------|--|-------------------------------|------------------|
| * Adrenal Cortex  |  | Hyperplasia                   | Minimal          |
| * Harderian Gland |  | Adenoma                       |                  |
|                   | [ Adenoma TGLs = 1-11 ]                  |                               |                  |
| * Kidney          |  | Nephropathy                   | Mild             |
| * Larynx          | Epiglottis                               | Fibrosis                      | Minimal          |
|                   |  | Metaplasia                    | Squamous, Marked |
| * Liver           |  | Eosinophilic Focus            |                  |
|                   | [ Eosinophilic Focus TGLs = 2-14, 6-13 ] | Fatty Change                  | Mild             |
|                   | [ Fatty Change TGLs = 3-5, 5-12 ]        |                               |                  |
| * Lung            | Bronchiole                               | Hyperplasia                   | Mild             |
| * Nose            |  | Accumulation, Hyaline Droplet | Mild             |
|                   | Respirat Epith                           | Hyperplasia                   | Mild             |
|                   | Glands, Olfactory Epi                    | Hyperplasia                   | Minimal          |
| * Pituitary Gland | Pars Distalis                            | Hyperplasia                   | Minimal          |
| Tooth             |  | Dysplasia                     | Mild             |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 642

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57361

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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 |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Preputial Gland         | * Prostate                  | * Salivary Glands        | * Seminal Vesicle          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Testes                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |          |  |                               |                    |
|----------|--|-------------------------------|--------------------|
| * Kidney |  | Nephropathy                   | Marked             |
| * Larynx | Epiglottis                                   | Fibrosis                      | Minimal            |
|          |  | Metaplasia                    | Squamous, Moderate |
| * Liver  |  | Hepatocellular Adenoma        |                    |
|          |  | Hepatocellular Carcinoma      |                    |
|          | [ Hepatocellular Adenoma TGLs = 3-14 ]       |                               |                    |
|          | [ Hepatocellular Carcinoma TGLs = 2-13 ]     |                               |                    |
| * Lung   |  | Alveolar/Bronchiolar Adenoma  |                    |
|          |  | Hepatocellular Carcinoma      | Metastatic (Liver) |
|          | Bronchiole                                   | Hyperplasia                   | Minimal            |
|          | [ Alveolar/Bronchiolar Adenoma TGLs = 1-12 ] |                               |                    |
| * Nose   |  | Accumulation, Hyaline Droplet | Moderate           |
|          | Respirat Epith                               | Hyperplasia                   | Minimal            |
|          | Glands, Olfactory Epi                        | Hyperplasia                   | Mild               |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 643

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57362

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Epididymis
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Salivary Glands
- \* Stomach, Glandular
- \* Trachea
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Skin
- \* Testes
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Preputial Gland
- \* Spleen
- \* Thymus
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Prostate
- \* Stomach, Forestomach
- \* Thyroid Gland

MISSING

- \* Gallbladder
- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Seminal Vesicle
- Tooth
- Epiglottis
- Bronchiole
- Respirat Epith
- Glands, Olfactory Epi
- Adenoma
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Dilatation
- Dysplasia
- Inflammation
- Mild
- Minimal
- Squamous, Moderate
- Minimal
- Minimal
- Mild
- Minimal
- Minimal
- Mild
- Chronic Active, Moderate

[ Basophilic Focus TGLs = 4-14 ]

[ Hepatocellular Adenoma TGLs = 2-12 ]

[ Dilatation TGLs = 1-9 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 644

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57363

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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 | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Testes                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

- |                         |                           |                 |          |
|-------------------------|---------------------------|-----------------|----------|
| * Lymph Node, Bronchial | * Lymph Node, Mediastinal | * Mammary Gland | * Thymus |
|-------------------------|---------------------------|-----------------|----------|

OBSERVATIONS

- |          |                |                               |                          |
|----------|----------------|-------------------------------|--------------------------|
| * Kidney |                | Nephropathy                   | Mild                     |
| * Larynx | Epiglottis     | Fibrosis                      | Minimal                  |
|          |                | Metaplasia                    | Squamous, Moderate       |
| * Liver  |                | Clear Cell Focus              |                          |
|          |                | Tension Lipidosis             | Minimal                  |
| * Lung   |                | Alveolar/Bronchiolar Adenoma  |                          |
|          | Bronchiole     | Hyperplasia                   | Minimal                  |
| * Nose   |                | Accumulation, Hyaline Droplet | Mild                     |
|          | Respirat Epith | Hyperplasia                   | Minimal                  |
| Tooth    |                | Dysplasia                     | Marked                   |
|          |                | Inflammation                  | Chronic Active, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 645

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57364

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 |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland         | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle         | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular      | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |

MISSING

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

OBSERVATIONS

- |                  |  |                               |                         |
|------------------|--|-------------------------------|-------------------------|
| * Adrenal Cortex | Subcapsular                              | Adenoma                       | Mild                    |
| * Kidney         |  | Hyperplasia                   | Moderate                |
| * Larynx         | Epiglottis                               | Nephropathy                   | Minimal                 |
|                  |  | Fibrosis                      | Chronic Active, Minimal |
|                  |  | Inflammation                  | Squamous, Marked        |
| * Liver          |  | Metaplasia                    | Multiple                |
|                  |  | Hepatocellular Adenoma        |                         |
|                  |  | Hepatocellular Carcinoma      |                         |
|                  | [ Hepatocellular Adenoma TGLs = 1-12 ]   |                               |                         |
|                  | [ Hepatocellular Carcinoma TGLs = 2-13 ] |                               |                         |
| * Lung           | Bronchiole                               | Hyperplasia                   | Minimal                 |
| * Nose           |  | Accumulation, Hyaline Droplet | Moderate                |
|                  | Respirat Epith                           | Hyperplasia                   | Mild                    |
|                  | Glands, Olfactory Epi                    | Hyperplasia                   | Minimal                 |
|                  |  | Inflammation                  | Suppurative, Mild       |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 646

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57365

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Mammary Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
  - Cyst Minimal
  - Nephropathy Mild
- \* Larynx
  - Epiglottis
    - Fibrosis Minimal
    - Metaplasia Squamous, Marked
- \* Liver
  - Eosinophilic Focus
  - Fatty Change Mild
  - Hepatocellular Adenoma Multiple
- [ Fatty Change TGLs = 2-5, 3-5 ]
- [ Hepatocellular Adenoma TGLs = 1-5, 4-6 ]
- \* Lung
  - Bronchiole
    - Hyperplasia Minimal
- \* Nose
  - Respirat Epith
    - Accumulation, Hyaline Droplet Minimal
    - Hyperplasia Minimal
    - Inflammation Suppurative, Minimal
- Tooth
  - Dysplasia Moderate

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 647

TRT#: 7

SEX: Male

DAY ON TEST: 709

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57366

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                          |                           |                             |
|----------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex           | * Adrenal Medulla        | * Brain                   | * Epididymis                |
| * Esophagus                | * Eye                    | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Jejunum | * Islets, Pancreatic     | * Pancreas                | Peripheral Nerve            |
| * Pituitary Gland          | * Preputial Gland        | * Prostate                | * Salivary Glands           |
| * Seminal Vesicle          | * Skin                   | Spinal Cord               | * Spleen                    |
| * Thyroid Gland            | * Trachea                | * Urinary Bladder         |                             |

MISSING

- |                         |                 |                     |          |
|-------------------------|-----------------|---------------------|----------|
| * Lymph Node, Bronchial | * Mammary Gland | * Parathyroid Gland | * Thymus |
|-------------------------|-----------------|---------------------|----------|

OBSERVATIONS

- |                           |               |                               |                          |
|---------------------------|---------------|-------------------------------|--------------------------|
| * Bone                    | Cranium       | Inflammation                  | Chronic Active, Marked   |
| * Bone Marrow             |               | Lymphoma Malignant            |                          |
| * Gallbladder             |               | Cytoplasmic Alteration        | Mild                     |
| * Intestine Small, Ileum  |               | Inflammation                  | Chronic Active, Moderate |
|                           |               | Lymphoma Malignant            |                          |
| * Kidney                  |               | Nephropathy                   | Mild                     |
| * Larynx                  | Epiglottis    | Fibrosis                      | Minimal                  |
|                           |               | Metaplasia                    | Squamous, Moderate       |
| * Liver                   |               | Lymphoma Malignant            |                          |
| * Lung                    | Bronchiole    | Hyperplasia                   | Minimal                  |
| Lymph Node                | Renal         | Lymphoma Malignant            |                          |
|                           | Lumbar        | Lymphoma Malignant            |                          |
|                           | Pancreatic    | Lymphoma Malignant            |                          |
| [ Lymphoma Malignant      | TGLs = 2-6 ]  |                               |                          |
| [ Lymphoma Malignant      | TGLs = 3-12 ] |                               |                          |
| * Lymph Node, Mandibular  |               | Lymphoma Malignant            |                          |
| * Lymph Node, Mediastinal |               | Lymphoma Malignant            |                          |
| * Lymph Node, Mesenteric  |               | Lymphoma Malignant            |                          |
| [ Lymphoma Malignant      | TGLs = 1-7 ]  |                               |                          |
| * Nose                    |               | Accumulation, Hyaline Droplet | Moderate                 |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 647

TRT#: 7

SEX: Male

DAY ON TEST: 709

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57366

ORGAN AND ACCOUNTABLE SITE STATUS

	Glands, Olfactory Epi	Hyperplasia	Minimal
		Inflammation	Suppurative, Moderate
	Olfactory Epi	Metaplasia	Respiratory, Mild
Skeletal Muscle		Infiltration Cellular	Mixed Cell, Minimal
* Stomach, Forestomach		Hyperplasia	Squamous, Marked
* Stomach, Glandular		Ulcer	Moderate
* Testes	Germinal Epith	Atrophy	Mild
Tooth		Inflammation	Chronic Active, Moderate
Ureter		Inflammation	Chronic Active, Marked

PRIMARY CAUSE OF DEATH - Lymph Node, Mesenteric Lymphoma Malignant

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 648

TRT#: 7

SEX: Male

DAY ON TEST: 590

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57367

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland
- \* Parathyroid Gland
- \* Thymus

AUTO PRECLUDES DIAG.

- \* Spleen

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Preputial Gland
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Necrosis
- Alveolar/Bronchiolar Adenoma
- Alveolar/Bronchiolar Carcinoma
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Ectasia
- Minimal
- Squamous, Mild
- Multiple
- Moderate
- Minimal
- Moderate
- Minimal
- Minimal
- Mild

[ Hepatocellular Adenoma TGLs = 3-13, 4-13, 5-13 ]

[ Hepatocellular Carcinoma TGLs = 6-12 ]

Bronchiole  
[ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ]

Glands, Olfactory Epi  
Respirat Epith

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

---

**ANIMAL ID:** 648

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 590

**DOSE:** 100 mg/m3

**DISP:** Natural Death

**HISTO:** 57367

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Ectasia TGLs = 1-8 ]

---

**PRIMARY CAUSE OF DEATH**

- Liver Hepatocellular Carcinoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 649

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57368

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Mammary Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Preputial Gland
- [ Ectasia TGLs = 1-8 ]
- Tooth
- Epiglottis
- Alveolar Epith
- Bronchiole
- Respirat Epith
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hyperplasia
- Hyperplasia
- Infiltration Cellular
- Accumulation, Hyaline Droplet
- Hyperplasia
- Ectasia
- Dysplasia
- Mild
- Mild
- Minimal
- Squamous, Marked
- Mild
- Moderate
- Minimal
- Histiocyte, Mild
- Mild
- Mild
- Marked
- Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 650

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57369

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
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Pancreas
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Mammary Gland	* Parathyroid Gland
-------------------------	---------------------------	-----------------	---------------------

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Fibrosis	Minimal
		Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
	[ Basophilic Focus TGLs = 1-6 ]		
* Lung	Bronchiole	Hyperplasia	Minimal
* Nose		Accumulation, Hyaline Droplet	Moderate
	Glands, Olfactory Epi	Hyperplasia	Mild
	Respirat Epith	Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
* Thyroid Gland	Follicular Cel	Hyperplasia	Mild
Tooth		Dysplasia	Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 101

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57270

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * 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      | * Larynx                    | * Liver                  | * Mammary Gland            |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| Tissue NOS                | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                           |  |                               |         |
|---------------------------|--|-------------------------------|---------|
| * Adrenal Cortex          |  | Angiectasis                   | Mild    |
| * Kidney                  |  | Lymphoma Malignant            |         |
|                           |  | Nephropathy                   | Mild    |
| * Lung                    | Alveolar Epith                           | Hyperplasia                   | Minimal |
| Lymph Node                | Renal                                    | Lymphoma Malignant            |         |
|                           | Deep Cervical                            | Lymphoma Malignant            |         |
|                           | Pancreatic                               | Lymphoma Malignant            |         |
|                           | [ Lymphoma Malignant TGLs = 4-15, 5-16 ] |                               |         |
|                           | [ Lymphoma Malignant TGLs = 1-14 ]       |                               |         |
| * Lymph Node, Mandibular  |  | Lymphoma Malignant            |         |
| * Lymph Node, Mediastinal |  | Lymphoma Malignant            |         |
| * Lymph Node, Mesenteric  |  | Lymphoma Malignant            |         |
| * Nose                    |  | Accumulation, Hyaline Droplet | Minimal |
|                           | Respirat Epith                           | Hyperplasia                   | Minimal |
| * Ovary                   |  | Hemorrhage                    | Minimal |
|                           |  | Lymphoma Malignant            |         |
| * Spleen                  |  | Lymphoma Malignant            |         |
|                           | [ Lymphoma Malignant TGLs = 2-12, 3-13 ] |                               |         |
| * Thymus                  |  | Lymphoma Malignant            |         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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**ANIMAL ID:** 101

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** Control

**DISP:** Terminal Sacrifice

**HISTO:** 57270

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 102

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57271

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Bronchial     | * 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          |

MISSING

- \* Lymph Node, Mediastinal

INSUFFICIENT TISSUE

- \* Larynx

OBSERVATIONS

- |                   |  |                        |                 |
|-------------------|--|------------------------|-----------------|
| * Bone            |  | Fibro-Osseous Lesion   | Minimal         |
| * Kidney          |  | Nephropathy            | Mild            |
| * Liver           |  | Hepatocellular Adenoma |                 |
|                   | [ Hepatocellular Adenoma TGLs = 1-12 ] |                        |                 |
| * Lung            |  | Bronchiole             | Minimal         |
| * Nose            |  | Respirat Epith         | Mild            |
| * Ovary           |  | Luteoma                |                 |
|                   | [ Luteoma TGLs = 2-8 ]                 |                        |                 |
| * Pituitary Gland |  | Pars Distalis          | Minimal         |
| * Uterus          |  | Angiectasis            | Marked          |
|                   |  | Endometrium            | Cystic, Minimal |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 103

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57272

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Uterus

OBSERVATIONS

- \* Bone
  - Fibro-Osseous Lesion Minimal
  - Femur Fracture
  - Cartilage, Femur, Metaphysis Hyperplasia Marked
  - [ Hyperplasia TGLs = 6-10 ]
- \* Kidney Nephropathy Minimal
- \* Liver Lymphoma Malignant
- \* Lung Bronchiole Hyperplasia Minimal
- Lymph Node
  - Renal Lymphoma Malignant
  - Lumbar Lymphoma Malignant
  - [ Lymphoma Malignant TGLs = 4-13 ]
  - [ Lymphoma Malignant TGLs = 5-14 ]
- \* Lymph Node, Bronchial Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 3-4 ]
- \* Lymph Node, Mandibular Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 2-3 ]
- \* Lymph Node, Mesenteric Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 7-12 ]
- \* Nose Accumulation, Hyaline Droplet Minimal
- \* Pituitary Gland Pars Distalis Hyperplasia Mild
- \* Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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**ANIMAL ID:** 103

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** Control

**DISP:** Terminal Sacrifice

**HISTO:** 57272

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Lymphoma Malignant TGLs = 1-5 ]

\* Thymus

Lymphoma Malignant

\* Urinary Bladder

Lymphoma Malignant

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 104

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57273

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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      | * Larynx                    | * Lymph Node, Mandibular |
| * Lymph Node, Mediastinal  | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

OBSERVATIONS

- |                          |  |                               |                    |
|--------------------------|--|-------------------------------|--------------------|
| * Kidney                 |  | Nephropathy                   | Mild               |
| * Liver                  |  | Hepatocellular Carcinoma      |                    |
|                          |  | Histiocytic Sarcoma           |                    |
|                          | [ Hepatocellular Carcinoma TGLs = 5-12 ]     |                               |                    |
| * Lung                   |  | Hepatocellular Carcinoma      | Metastatic (Liver) |
|                          |  | Lymphoma Malignant            |                    |
|                          | [ Hepatocellular Carcinoma TGLs = 2-4, 3-4 ] |                               |                    |
|                          | [ Lymphoma Malignant TGLs = 4-4 ]            |                               |                    |
| * Lymph Node, Bronchial  |  | Lymphoma Malignant            |                    |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant            |                    |
| * Mammary Gland          |  | Carcinoma                     |                    |
|                          | [ Carcinoma TGLs = 1-13 ]                    |                               |                    |
| * Nose                   |  | Accumulation, Hyaline Droplet | Mild               |
|                          | Respirat Epith                               | Hyperplasia                   | Minimal            |
| * Ovary                  |  | Granulosa Cell Tumor Benign   |                    |
|                          |  | Lymphoma Malignant            |                    |
|                          | [ Granulosa Cell Tumor Benign TGLs = 6-8 ]   |                               |                    |
| * Pituitary Gland        | Pars Distalis                                | Hyperplasia                   | Minimal            |
| * Spleen                 |  | Lymphoma Malignant            |                    |
| * Thymus                 |  | Lymphoma Malignant            |                    |
| * Uterus                 | Endometrium                                  | Hyperplasia                   | Cystic, Minimal    |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 105

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57274

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * 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      | * Larynx                    |
| * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mediastinal | * 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          |                           |                             |

MISSING

- |                  |                         |
|------------------|-------------------------|
| * Clitoral Gland | * Lymph Node, Bronchial |
|------------------|-------------------------|

OBSERVATIONS

- |                  |  |                        |                 |
|------------------|--|------------------------|-----------------|
| * Adrenal Cortex |  | Hyperplasia            | Mild            |
| * Bone           |  | Fibro-Osseous Lesion   | Mild            |
| * Kidney         |  | Nephropathy            | Mild            |
| * Liver          |  | Hepatocellular Adenoma | Multiple        |
|                  | [ Hepatocellular Adenoma TGLs = 1-5, 2-5 ] |                        |                 |
| * Nose           | Respirat Epith                             | Hyperplasia            | Mild            |
| * Uterus         | Endometrium                                | Hyperplasia            | Cystic, Minimal |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 106

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57275

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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      | * Larynx                    | * Liver                  |
| * Lung                     | * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| * Uterus                   |                           |                             |                          |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |                          |                               |                      |
|-------------------|--------------------------|-------------------------------|----------------------|
| * Kidney          |                          | Nephropathy                   | Minimal              |
| Mesentery         | Fat                      | Necrosis                      | Mild                 |
|                   | [ Necrosis TGLs = 2-12 ] |                               |                      |
| * Nose            |                          | Accumulation, Hyaline Droplet | Mild                 |
|                   | Respirat Epith           | Hyperplasia                   | Mild                 |
|                   |                          | Inflammation                  | Chronic Active, Mild |
|                   |                          | Necrosis                      | Minimal              |
| * Ovary           |                          | Cyst                          | Mild                 |
|                   | [ Cyst TGLs = 1-8 ]      |                               |                      |
| * Pituitary Gland | Pars Distalis            | Hyperplasia                   | Mild                 |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 107

TRT#: 2

SEX: Female

DAY ON TEST: 613

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57276

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * 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      |
| * Larynx                    | * Lymph Node, Mediastinal | * Mammary Gland            | * Pancreas                |
| * Parathyroid Gland         | * Salivary Glands         | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thyroid Gland           | * Trachea                  | * Urinary Bladder         |

MISSING

- |                         |          |
|-------------------------|----------|
| * Lymph Node, Bronchial | * Thymus |
|-------------------------|----------|

OBSERVATIONS

- |                          |                                      |                     |
|--------------------------|--------------------------------------|---------------------|
| * Bone                   | Fibro-Osseous Lesion                 | Minimal             |
| * Bone Marrow            | Histiocytic Sarcoma                  |                     |
| * Kidney                 | Accumulation, Hyaline Droplet        | Mild                |
|                          | Histiocytic Sarcoma                  |                     |
|                          | Nephropathy                          | Mild                |
| * Liver                  | Histiocytic Sarcoma                  |                     |
|                          | Necrosis                             | Moderate            |
|                          | [ Histiocytic Sarcoma TGLs = 1-5 ]   |                     |
|                          | [ Necrosis TGLs = 2-5, 3-5 ]         |                     |
| * Lung                   | Histiocytic Sarcoma                  |                     |
|                          | Infiltration Cellular                | Histiocyte, Minimal |
| * Lymph Node, Mandibular | Histiocytic Sarcoma                  |                     |
| * Lymph Node, Mesenteric | Histiocytic Sarcoma                  |                     |
|                          | Infiltration Cellular                | Histiocyte, Mild    |
|                          | [ Infiltration Cellular TGLs = 5-6 ] |                     |
| * Nose                   | Accumulation, Hyaline Droplet        | Minimal             |
| * Ovary                  | Histiocytic Sarcoma                  |                     |
| * Pituitary Gland        | Pars Distalis                        | Hyperplasia         |
| * Spleen                 | Histiocytic Sarcoma                  | Minimal             |
| * Uterus                 | Histiocytic Sarcoma                  |                     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 107

TRT#: 2

SEX: Female

DAY ON TEST: 613

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57276

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Histiocytic Sarcoma TGLs = 4-9 ]

PRIMARY CAUSE OF DEATH

- Liver Histiocytic Sarcoma

---



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 108

TRT#: 2

SEX: Female

DAY ON TEST: 677

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57277

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * 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      | * Larynx                    | * Liver                  | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   | * Ovary                    |
| * Pancreas                | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- |                         |                          |                     |
|-------------------------|--------------------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Parathyroid Gland |
|-------------------------|--------------------------|---------------------|

OBSERVATIONS

- |          |                               |                |                      |
|----------|-------------------------------|----------------|----------------------|
| * Heart  |                               | Cardiomyopathy | Mild                 |
|          | [ Cardiomyopathy TGLs = 1-5 ] |                |                      |
| * Kidney |                               | Nephropathy    | Mild                 |
| * Lung   | Interstitialium               | Inflammation   | Chronic Active, Mild |
| * Uterus |                               | Dilatation     | Moderate             |
|          | [ Dilatation TGLs = 2-9 ]     |                |                      |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 109

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57278

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Larynx                    | * Liver                  | * Lung                     |
| * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Parathyroid Gland       | * Salivary Glands           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Urinary Bladder         |                             |                          |                            |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |                |                               |                      |
|-------------------|----------------|-------------------------------|----------------------|
| * Bone            |                | Fibro-Osseous Lesion          | Mild                 |
| * Kidney          |                | Nephropathy                   | Mild                 |
| * Nose            |                | Accumulation, Hyaline Droplet | Mild                 |
|                   | Respirat Epith | Hyperplasia                   | Mild                 |
| * Ovary           |                | Hemorrhage                    | Minimal              |
| * Pancreas        | Acinus         | Atrophy                       | Moderate             |
|                   |                | Inflammation                  | Chronic Active, Mild |
| * Pituitary Gland | Pars Distalis  | Hyperplasia                   | Mild                 |
| * Trachea         |                | Metaplasia                    | Squamous, Minimal    |
| * Uterus          | Endometrium    | Hyperplasia                   | Cystic, Mild         |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 110

TRT#: 2

SEX: Female

DAY ON TEST: 345

DOSE: Control

DISP: Natural Death

HISTO: 57279

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Liver
- \* Mammary Gland
- \* Salivary Glands
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lung
- \* Nose
- \* Spleen
- \* Trachea

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland

OBSERVATIONS

- Blood Vessel
- \* Heart
- \* Kidney
- \* Ovary
- \* Skin
- \* Thymus
- \* Uterus
- Aorta
- [ Squamous Cell Papilloma TGLs = 1-6 ]
- Endometrium
- Embolus Bacterial
- Necrosis
- Necrosis
- Nephropathy
- Necrosis
- Squamous Cell Papilloma
- Atrophy
- Hyperplasia
- Moderate
- Mild
- Minimal
- Minimal
- Minimal
- Minimal
- Minimal
- Cystic, Minimal

PRIMARY CAUSE OF DEATH - Blood Vessel Aorta Embolus Bacterial

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 111

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57280

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Esophagus
- \* Gallbladder
- \* Heart
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Intestine Small, Duodenum
- \* Intestine Small, Ileum
- \* Intestine Small, Jejunum
- \* Islets, Pancreatic
- \* Larynx
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |               |                               |                         |
|-------------------|---------------|-------------------------------|-------------------------|
| * Bone            |               | Fibro-Osseous Lesion          | Minimal                 |
| * Clitoral Gland  |               | Inflammation                  | Chronic Active, Minimal |
| * Eye             | Lens          | Degeneration                  | Minimal                 |
| * Harderian Gland |               | Hyperplasia                   | Marked                  |
| * Kidney          |               | Lymphoma Malignant            |                         |
|                   |               | Nephropathy                   | Minimal                 |
| * Liver           |               | Lymphoma Malignant            |                         |
| * Lung            | Bronchiole    | Hyperplasia                   | Minimal                 |
|                   |               | Infiltration Cellular         | Histiocyte, Minimal     |
|                   |               | Lymphoma Malignant            |                         |
| * Nose            |               | Accumulation, Hyaline Droplet | Minimal                 |
| * Ovary           |               | Hemorrhage                    | Minimal                 |
| * Pituitary Gland | Pars Distalis | Hyperplasia                   | Marked                  |
| * Spleen          |               | Lymphoma Malignant            |                         |
| * Uterus          |               | Dilatation                    | Moderate                |
|                   | Endometrium   | Hyperplasia                   | Cystic, Marked          |

[ Dilatation TGLs = 1-9 ]

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 112

TRT#: 2

SEX: Female

DAY ON TEST: 705

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57281

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Bone Marrow
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Larynx
- \* Mammary Gland
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Skin
- \* Thymus
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- Spinal Cord
- \* Thyroid Gland
- \* Gallbladder
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Eye Lens Degeneration Minimal
- \* Intestine Small, Jejunum Lymphoma Malignant TGLs = 6-7
- \* Kidney Nephropathy Mild
- \* Liver Lymphoma Malignant TGLs = 1-5
- \* Lung Lymphoma Malignant
- Lymph Node Lumbar Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 5-6 ]
- \* Nose Accumulation, Hyaline Droplet Minimal
- \* Ovary Cystadenoma
- [ Cystadenoma TGLs = 3-8 ]
- Skeletal Muscle Infiltration Cellular Lymphocyte, Minimal
- \* Spleen Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 2-5 ]
- \* Uterus Dilatation Moderate
- [ Dilatation TGLs = 4-9 ]

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 113

TRT#: 2

SEX: Female

DAY ON TEST: 605

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57282

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Ovary
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Skin
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mesenteric
- Peripheral Nerve
- Spinal Cord
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Mammary Gland
- \* Pituitary Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Mediastinal
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Liver
- [ Hepatocellular Carcinoma TGLs = 1-12 ]
- \* Nose
- Skeletal Muscle
- \* Uterus
- [ Hyperplasia TGLs = 3-9 ]
- Nephropathy
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Hyperplasia
- Inflammation
- Infiltration Cellular
- Hyperplasia
- Mild
- Minimal
- Chronic Active, Minimal
- Lymphocyte, Mild
- Cystic, Mild

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 114

TRT#: 2

SEX: Female

DAY ON TEST: 549

DOSE: Control

DISP: Natural Death

HISTO: 57283

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* 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
- \* Larynx
- \* Lung
- \* Lymph Node, Bronchial
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder
- \* Uterus

MISSING

- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- \* Thymus

AUTO PRECLUDES DIAG.

- \* Intestine Small, Duodenum

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Mild
- \* Liver Fatty Change Mild
- Hepatocellular Adenoma Minimal
- Tension Lipidosis Minimal
- [ Fatty Change TGLs = 1-5 ]
- [ Hepatocellular Adenoma TGLs = 2-6 ]
- \* Nose Accumulation, Hyaline Droplet Minimal
- Respirat Epith Hyperplasia Minimal
- Olfactory Epi Metaplasia Respiratory, Minimal
- \* Ovary Cyst Moderate
- [ Cyst TGLs = 3-8 ]
- \* Stomach, Forestomach Fibrosis Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 115

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57284

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Spleen
- \* Trachea
- \* Bone
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Larynx
- \* Mammary Gland
- \* Skin
- \* Thymus

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Adrenal Cortex
- \* Brain
- \* Heart
- \* Kidney
- \* Liver
- [ Eosinophilic Focus TGLs = 11-12, 13-14 ]
- [ Hepatocellular Adenoma TGLs = 2-5, 3-6 ]
- \* Lung
- [ Hemorrhage TGLs = 10-4 ]
- Lymph Node
- [ Ectasia TGLs = 8-16 ]
- [ Ectasia TGLs = 9-15 ]
- Mesentery
- [ Necrosis TGLs = 6-6 ]
- \* Nose
- Vacuolization Cytoplasmic
- Compression
- Hyperplasia
- Nephropathy
- Eosinophilic Focus
- Hepatocellular Adenoma
- Hemorrhage
- Hyperplasia
- Inflammation
- Ectasia
- Ectasia
- Necrosis
- Accumulation, Hyaline Droplet
- Mild
- Mild
- Minimal
- Mild
- Multiple
- Mild
- Minimal
- Chronic Active, Moderate
- Marked
- Minimal
- Mild
- Minimal

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 115

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57284

ORGAN AND ACCOUNTABLE SITE STATUS

* Ovary	Respirat Epith	Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hemorrhage	Minimal
		Adenoma	
		Angiectasis	Marked
[ Adenoma TGLs = 1-9 ]			
* Thyroid Gland	Follicular Cel	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
[ Hyperplasia TGLs = 7-9 ]			

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 116

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57285

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Liver
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lung
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Ovary
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Medulla
- \* Bone
- \* Kidney
- Mesentery
- [ Necrosis TGLs = 1-6 ]
- \* Nose
- \* Pituitary Gland
- \* Uterus
- [ Hyperplasia TGLs = 2-9 ]
- Fat
- Respirat Epith Glands, Olfactory Epi
- Pars Distalis
- Endometrium
- Hyperplasia
- Fibro-Osseous Lesion
- Nephropathy
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Minimal
- Mild
- Mild
- Minimal
- Mild
- Mild
- Minimal
- Mild
- Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 117

TRT#: 2

SEX: Female

DAY ON TEST: 683

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57286

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Kidney                    | * Larynx                 | * Liver                    |
| * Lung                    | * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Pancreas                  | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | Spinal Cord                 | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         | * Uterus                    |                          |                            |

MISSING

- |                  |                           |                     |
|------------------|---------------------------|---------------------|
| * Clitoral Gland | * Lymph Node, Mediastinal | * Parathyroid Gland |
|------------------|---------------------------|---------------------|

OBSERVATIONS

- |                          |                               |                     |
|--------------------------|-------------------------------|---------------------|
| * Nose                   | Accumulation, Hyaline Droplet | Minimal             |
| * Ovary                  | Cyst                          | Moderate            |
| [ Cyst TGLs = 1-8, 2-8 ] |                               |                     |
| Peripheral Nerve         | Infiltration Cellular         | Mixed Cell, Minimal |
| Skeletal Muscle          | Infiltration Cellular         | Lymphocyte, Minimal |

PRIMARY CAUSE OF DEATH - Ovary Cyst

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 118

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57287

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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      | * Larynx                    | * Lung                   |
| * Lymph Node, Bronchial    | * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           | * Uterus                 |

MISSING

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

OBSERVATIONS

- |                   |   |                               |         |
|-------------------|---|-------------------------------|---------|
| * Kidney          |   | Nephropathy                   | Minimal |
| * Liver           |   | Hepatocellular Adenoma        |         |
|                   |   | Hepatocellular Carcinoma      |         |
|                   | [ Hepatocellular Adenoma TGLs = 1-5 ]   |                               |         |
|                   | [ Hepatocellular Carcinoma TGLs = 2-6 ] |                               |         |
| * Nose            |   | Accumulation, Hyaline Droplet | Mild    |
|                   | Respirat Epith                          | Hyperplasia                   | Minimal |
|                   | Glands, Olfactory Epi                   | Hyperplasia                   | Minimal |
| * Pituitary Gland | Pars Distalis                           | Hyperplasia                   | Mild    |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 119

TRT#: 2

SEX: Female

DAY ON TEST: 194

DOSE: Control

DISP: Natural Death

HISTO: 57288

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                          |                           |                         |
|--------------------------|--------------------------|---------------------------|-------------------------|
| * Adrenal Cortex         | * Adrenal Medulla        | * Bone                    | * Bone Marrow           |
| * Brain                  | * Esophagus              | * Eye                     | * Harderian Gland       |
| * Heart                  | * Intestine Large, Cecum | * Intestine Large, Rectum | * Islets, Pancreatic    |
| * Larynx                 | * Liver                  | * Lung                    | * Lymph Node, Bronchial |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Mammary Gland           | * Ovary                 |
| * Pancreas               | * Pituitary Gland        | * Salivary Glands         | * Skin                  |
| * Spleen                 | * Stomach, Forestomach   | * Stomach, Glandular      | * Thyroid Gland         |
| * Trachea                | * Urinary Bladder        | * Uterus                  |                         |

MISSING

- |                  |               |                           |                     |
|------------------|---------------|---------------------------|---------------------|
| * Clitoral Gland | * Gallbladder | * Lymph Node, Mediastinal | * Parathyroid Gland |
|------------------|---------------|---------------------------|---------------------|

AUTO PRECLUDES DIAG.

- |                          |                             |                          |                            |
|--------------------------|-----------------------------|--------------------------|----------------------------|
| * Intestine Large, Colon | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
|--------------------------|-----------------------------|--------------------------|----------------------------|

OBSERVATIONS

- |          |                |                    |         |
|----------|----------------|--------------------|---------|
| * Kidney | Glomerulus     | Amyloid Deposition | Marked  |
| * Nose   | Respirat Epith | Hyperplasia        | Minimal |
| * Thymus |                | Atrophy            | Mild    |

PRIMARY CAUSE OF DEATH

- Kidney Glomerulus Amyloid Deposition

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 120

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57289

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Spleen
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Skin
- \* Thyroid Gland

MISSING

- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Liver
  - [ Hepatocellular Adenoma TGLs = 2-6, 3-5, 4-5 ]
  - Lymph Node Iliac
  - [ Ectasia TGLs = 1-6 ]
- \* Nose
- \* Ovary
- \* Uterus
- Vacuolization Cytoplasmic
- Nephropathy
- Hepatocellular Adenoma
- Ectasia
- Hemorrhage
- Hyperplasia
- Hemorrhage
- Hyperplasia
- Hyperplasia
- Moderate
- Mild
- Multiple
- Marked
- Moderate
- Minimal
- Minimal
- Mild
- Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 121

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57290

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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      | * Larynx                    | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                           |  |                                |                  |
|---------------------------|--|--------------------------------|------------------|
| * Kidney                  |  | Nephropathy                    | Mild             |
| * Liver                   |  | Fatty Change                   | Mild             |
|                           |  | Hepatocellular Adenoma         | Multiple         |
|                           |  | Tension Lipidosis              | Mild             |
| * Lung                    | [ Hepatocellular Adenoma TGLs = 2-12, 3-5, 4-6 ] |                                |                  |
|                           | Bronchiole                                       | Alveolar/Bronchiolar Carcinoma |                  |
|                           | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ]    | Hyperplasia                    | Minimal          |
| * Lymph Node, Mediastinal |  | Lymphoma Malignant             |                  |
| Mesentery                 |  | Lymphoma Malignant             |                  |
| * Nose                    |  | Accumulation, Hyaline Droplet  | Mild             |
|                           | Respirat Epith                                   | Hyperplasia                    | Minimal          |
| * Ovary                   |  | Cyst                           | Minimal          |
|                           |  | Hemorrhage                     | Minimal          |
| * Parathyroid Gland       |  | Hyperplasia                    | Marked           |
| * Pituitary Gland         | Pars Distalis                                    | Hyperplasia                    | Mild             |
| * Spleen                  |  | Lymphoma Malignant             |                  |
| * Thymus                  |  | Lymphoma Malignant             |                  |
| * Uterus                  | Endometrium                                      | Hyperplasia                    | Cystic, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 122

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57291

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Salivary Glands
- \* Thyroid Gland
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Skin
- \* Trachea
- \* Clitoral Gland
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Stomach, Forestomach
- \* Urinary Bladder

MISSING

- \* Gallbladder

OBSERVATIONS

- \* Adrenal Cortex Hyperplasia Minimal
- \* Bone Fibro-Osseous Lesion Minimal
- \* Harderian Gland Hyperplasia Mild
- \* Kidney Nephropathy Minimal
- \* Liver Eosinophilic Focus
- [ Eosinophilic Focus TGLs = 3-12, 4-5 ] Lymphoma Malignant
- \* Lung Lymphoma Malignant
- Lymph Node Lymphoma Malignant
- Renal Lymphoma Malignant
- Lumbar Lymphoma Malignant
- Pancreatic Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 5-13 ]
- [ Lymphoma Malignant TGLs = 6-14 ]
- \* Lymph Node, Bronchial Lymphoma Malignant
- \* Lymph Node, Mandibular Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- Mesentery Cyst Moderate
- [ Cyst TGLs = 8-15 ] Lymphoma Malignant
- \* Nose Accumulation, Hyaline Droplet Mild

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 122

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57291

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Hyperplasia	Minimal
* Ovary		Angiectasis	Minimal
* Pancreas		Lymphoma Malignant	
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 1-5 ]		
* Thymus		Lymphoma Malignant	
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
		Thrombosis	Moderate
	[ Thrombosis TGLs = 7-9 ]		

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 123

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57292

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * 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      | * Larynx                    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas                | * Salivary Glands           |
| * Skin                   | * Stomach, Glandular       | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

MISSING

- |                         |                     |
|-------------------------|---------------------|
| * Lymph Node, Bronchial | * Parathyroid Gland |
|-------------------------|---------------------|

OBSERVATIONS

- |                           |                                   |                               |         |
|---------------------------|-----------------------------------|-------------------------------|---------|
| * Adrenal Cortex          |                                   | Hyperplasia                   | Minimal |
| * Harderian Gland         |                                   | Atrophy                       | Minimal |
| * Heart                   |                                   | Lymphoma Malignant            |         |
| * Kidney                  |                                   | Nephropathy                   | Mild    |
| * Liver                   |                                   | Eosinophilic Focus            |         |
|                           |                                   | Lymphoma Malignant            |         |
|                           | [ Eosinophilic Focus TGLs = 6-6 ] |                               |         |
| * Lung                    |                                   | Lymphoma Malignant            |         |
| * Lymph Node, Mandibular  |                                   | Lymphoma Malignant            |         |
| * Lymph Node, Mediastinal |                                   | Lymphoma Malignant            |         |
| Mesentery                 |                                   | Lymphoma Malignant            |         |
|                           | Fat                               | Necrosis                      | Mild    |
|                           | [ Necrosis TGLs = 2-12 ]          |                               |         |
| * Nose                    |                                   | Accumulation, Hyaline Droplet | Mild    |
|                           | Respirat Epith                    | Hyperplasia                   | Mild    |
|                           | Glands, Olfactory Epi             | Hyperplasia                   | Minimal |
| * Ovary                   |                                   | Cyst                          | Mild    |
|                           |                                   | Hemorrhage                    | Minimal |
|                           | [ Cyst TGLs = 3-8 ]               |                               |         |
|                           | [ Hemorrhage TGLs = 4-8 ]         |                               |         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 123

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57292

ORGAN AND ACCOUNTABLE SITE STATUS

* Pituitary Gland	Angiectasis	Minimal
* Spleen	Lymphoma Malignant	
[ Lymphoma Malignant TGLs = 1-5 ]		
* Stomach, Forestomach	Hyperplasia	Squamous, Marked
* Thymus	Lymphoma Malignant	
* Uterus	Dilatation	Moderate
	Endometrium	Cystic, Moderate
[ Hyperplasia TGLs = 5-12 ]		

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 124

TRT#: 2

SEX: Female

DAY ON TEST: 527

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57293

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Lung
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder
- \* Uterus

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney Nephropathy Minimal
- \* Liver Hepatocellular Adenoma
- Tension Lipidosis Minimal
- Vacuolization Cytoplasmic Minimal
- [ Hepatocellular Adenoma TGLs = 4-5 ]
- [ Vacuolization Cytoplasmic TGLs = 9-5 ]
- \* Mammary Gland Carcinoma
- [ Carcinoma TGLs = 3-12, 7-6 ]
- \* Nose Respirat Epith Hyperplasia Minimal
- Inflammation Suppurative, Minimal
- \* Ovary Cyst Mild
- [ Cyst TGLs = 5-8 ]
- \* Spleen Hematopoietic Cell Proliferation Mild
- [ Hematopoietic Cell Proliferation TGLs = 2-5 ]

PRIMARY CAUSE OF DEATH - Mammary Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 125

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57294

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Mammary Gland
- \* Salivary Glands
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Skin
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Medulla
- \* Kidney
- \* Liver
- [ Hepatocellular Carcinoma TGLs = 2-12 ]
- [ Tension Lipidosis TGLs = 1-5 ]
- \* Lung
- \* Nose
- \* Spleen
- [ Hematopoietic Cell Proliferation TGLs = 3-5 ]
- Tissue NOS
- \* Uterus
- Pheochromocytoma Benign
- Nephropathy
- Hepatocellular Carcinoma
- Tension Lipidosis
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hematopoietic Cell Proliferation
- Thrombosis
- Hyperplasia
- Mild
- Minimal
- Mild
- Mild
- Mild
- Minimal
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 126

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57295

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Mammary Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Stomach, Glandular
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Salivary Glands
- \* Thyroid Gland
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Skin
- \* Trachea

MISSING

- \* Clitoral Gland
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Bone
  - \* Kidney
  - \* Liver
  - [ Hepatocellular Adenoma TGLs = 1-5 ]
  - [ Lymphoma Malignant TGLs = 2-5 ]
  - \* Nose
  - Respirat Epith
  - \* Ovary
  - Corpus Luteum
  - \* Pituitary Gland
  - Pars Distalis
  - \* Spleen
  - [ Lymphoma Malignant TGLs = 3-5 ]
  - \* Thymus
  - \* Uterus
- Hyperplasia
  - Fibro-Osseous Lesion
  - Nephropathy
  - Hepatocellular Adenoma
  - Lymphoma Malignant
  - Necrosis
  - Accumulation, Hyaline Droplet
  - Hyperplasia
  - Hyperplasia
  - Hyperplasia
  - Lymphoma Malignant
  - Lymphoma Malignant
  - Leiomyoma
- Minimal
  - Minimal
  - Minimal
  - Minimal
  - Minimal
  - Mild
  - Minimal
  - Minimal
  - Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 127

TRT#: 2

SEX: Female

DAY ON TEST: 686

DOSE: Control

DISP: Moribund Sacrifice

HISTO: 57296

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                           |                            |                          |
|---------------------------|---------------------------|----------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla         | * Bone Marrow              | * 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     |
| * Kidney                  | * Larynx                  | * Liver                    | * Lymph Node, Bronchial  |
| * Lymph Node, Mandibular  | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Mammary Gland          |
| * Ovary                   | * Pancreas                | * Parathyroid Gland        | * Pituitary Gland        |
| * Salivary Glands         | * Stomach, Forestomach    | * Stomach, Glandular       | * Thymus                 |
| * Thyroid Gland           | * Urinary Bladder         | * Uterus                   |                          |

MISSING

- \* Trachea

OBSERVATIONS

- |                             |   |                                  |          |
|-----------------------------|---|----------------------------------|----------|
| * Bone                      |   | Fibro-Osseous Lesion             | Minimal  |
| * Intestine Small, Duodenum |   | Adenoma                          |          |
|                             | [ Adenoma TGLs = 3-13 ]                         |                                  |          |
| * Lung                      | Bronchiole                                      | Hyperplasia                      | Minimal  |
| * Nose                      | Respirat Epith                                  | Hyperplasia                      | Mild     |
| * Skin                      |   | Ulcer                            | Moderate |
|                             | [ Ulcer TGLs = 2-12 ]                           |                                  |          |
| * Spleen                    |   | Hematopoietic Cell Proliferation | Moderate |
|                             | [ Hematopoietic Cell Proliferation TGLs = 1-5 ] |                                  |          |

PRIMARY CAUSE OF DEATH - Intestine Small, Duodenum Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 128

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57297

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Larynx
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Stomach, Glandular
- \* Uterus
- \* Bone Marrow
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Liver
- \* Lymph Node, Mesenteric
- \* Skin
- \* Thymus
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Ovary
- \* Spleen
- \* Trachea
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder

MISSING

- \* Clitoral Gland
- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Brain
- \* Heart
- \* Islets, Pancreatic
- \* Kidney
- \* Mammary Gland
- \* Nose
- \* Pituitary Gland
- \* Thyroid Gland
- Artery
- Respirat Epith
- Pars Distalis
- C Cell
- Hyperplasia
- Fibro-Osseous Lesion
- Compression
- Inflammation
- Adenoma
- Nephropathy
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Adenoma
- Hyperplasia
- Mild
- Minimal
- Moderate
- Chronic Active, Moderate
- Minimal
- Minimal
- Mild
- Mild
- Moderate

[ Adenoma TGLs = 1-9 ]



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 129

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57298

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Lung
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder
- \* Uterus

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Kidney Nephropathy Minimal
- \* Liver Basophilic Focus
- Hepatoblastoma
- Hepatocellular Carcinoma
- [ Basophilic Focus TGLs = 3-12 ]
- [ Hepatoblastoma TGLs = 6-3 ]
- [ Hepatocellular Carcinoma TGLs = 2-12 ]
- Lymph Node Pancreatic Lymphoma Malignant
- \* Lymph Node, Bronchial Lymphoma Malignant
- \* Lymph Node, Mandibular Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- Mesentery Fat Necrosis Mild
- [ Necrosis TGLs = 5-6 ]
- \* Nose Accumulation, Hyaline Droplet Mild
- Respirat Epith Hyperplasia Mild
- \* Ovary Cyst Minimal
- \* Pituitary Gland Pars Distalis Adenoma
- [ Adenoma TGLs = 1-9 ]
- \* Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

**ANIMAL ID:** 129

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** Control

**DISP:** Terminal Sacrifice

**HISTO:** 57298

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Lymphoma Malignant TGLs = 4-5 ]

\* Thymus

Lymphoma Malignant

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 130

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57299

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                            |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Larynx                    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Ovary                     | * Pancreas                | * Pituitary Gland          |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach    | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |

MISSING

- |               |                         |                          |                     |
|---------------|-------------------------|--------------------------|---------------------|
| * Gallbladder | * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Parathyroid Gland |
|---------------|-------------------------|--------------------------|---------------------|

OBSERVATIONS

- |          |   |                                  |                    |
|----------|---|----------------------------------|--------------------|
| * Kidney |   | Nephropathy                      | Mild               |
| * Liver  |   | Hepatocellular Carcinoma         |                    |
|          | [ Hepatocellular Carcinoma TGLs = 3-12 ]        |                                  |                    |
| * Lung   |   | Hepatocellular Carcinoma         | Metastatic (Liver) |
|          | [ Hepatocellular Carcinoma TGLs = 4-4 ]         |                                  |                    |
| * Nose   |   | Accumulation, Hyaline Droplet    | Mild               |
|          | Respirat Epith                                  | Hyperplasia                      | Mild               |
| * Spleen |   | Hematopoietic Cell Proliferation | Mild               |
|          | [ Hematopoietic Cell Proliferation TGLs = 1-5 ] |                                  |                    |
| * Uterus |   | Angiectasis                      | Minimal            |
|          | [ Atrophy TGLs = 2-9 ]                          | Atrophy                          | Moderate           |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 131

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57300

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                            |                           |                             |
|---------------------------|----------------------------|---------------------------|-----------------------------|
| * 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      | * Larynx                    |
| * Liver                   | * Lung                     | * Lymph Node, Bronchial   | * Lymph Node, Mandibular    |
| * Lymph Node, Mediastinal | * Mammary Gland            | * Pancreas                | * Parathyroid Gland         |
| * Salivary Glands         | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular      | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

**MISSING**

- \* Lymph Node, Mesenteric

**OBSERVATIONS**

- |                         |                |                               |                      |
|-------------------------|----------------|-------------------------------|----------------------|
| * Adrenal Cortex        |                | Hyperplasia                   | Mild                 |
| * Adrenal Medulla       |                | Hyperplasia                   | Mild                 |
| * Brain                 |                | Compression                   | Moderate             |
| * Kidney                |                | Nephropathy                   | Mild                 |
| Mesentery               | Fat            | Necrosis                      | Mild                 |
| [ Necrosis TGLs = 2-6 ] |                |                               |                      |
| * Nose                  |                | Accumulation, Hyaline Droplet | Mild                 |
|                         | Respirat Epith | Hyperplasia                   | Mild                 |
|                         |                | Inflammation                  | Suppurative, Minimal |
| * Ovary                 | Corpus Luteum  | Hyperplasia                   | Minimal              |
| * Pituitary Gland       | Pars Distalis  | Adenoma                       |                      |
| [ Adenoma TGLs = 1-9 ]  |                |                               |                      |
| * Thymus                |                | Hyperplasia                   | Lymphoid, Moderate   |
| * Uterus                |                | Dilatation                    | Mild                 |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 132

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57301

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Larynx                    | * Lung                   | * Lymph Node, Bronchial    |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          | * Pancreas                 |
| * Pituitary Gland         | * Salivary Glands           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                           |                                   |          |
|---------------------------|-----------------------------------|----------|
| * Bone                    | Fibro-Osseous Lesion              | Mild     |
| * Kidney                  | Lymphoma Malignant                |          |
|                           | Nephropathy                       | Minimal  |
| * Liver                   | Basophilic Focus                  |          |
| * Lymph Node, Mediastinal | Lymphoma Malignant                |          |
| * Nose                    | Accumulation, Hyaline Droplet     | Minimal  |
| * Ovary                   | Cyst                              | Mild     |
|                           | [ Cyst TGLs = 1-8 ]               |          |
| * Spleen                  | Lymphoma Malignant                |          |
|                           | [ Lymphoma Malignant TGLs = 2-5 ] |          |
| * Thymus                  | Lymphoma Malignant                |          |
| * Uterus                  | Dilatation                        | Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 133

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57302

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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      |
| * Larynx                    | * Liver                  | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Salivary Glands        | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- |                         |                          |
|-------------------------|--------------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular |
|-------------------------|--------------------------|

OBSERVATIONS

- |                   |                                 |                      |                        |
|-------------------|---------------------------------|----------------------|------------------------|
| * Bone            |                                 | Fibro-Osseous Lesion | Minimal                |
| * Harderian Gland |                                 | Adenoma              |                        |
|                   | [ Adenoma TGLs = 1-11 ]         |                      |                        |
| * Kidney          |                                 | Nephropathy          | Minimal                |
| * Lung            | Bronchiole                      | Hyperplasia          | Minimal                |
| Lymph Node        | Pancreatic                      | Inflammation         | Chronic Active, Marked |
|                   | [ Inflammation TGLs = 4-12 ]    |                      |                        |
| * Nose            | Respirat Epith                  | Hyperplasia          | Mild                   |
| * Skin            |                                 | Hemangiosarcoma      |                        |
|                   | [ Hemangiosarcoma TGLs = 2-13 ] |                      |                        |
| * Spleen          |                                 | Hemangiosarcoma      |                        |
|                   | [ Hemangiosarcoma TGLs = 3-5 ]  |                      |                        |
| * Uterus          |                                 | Inflammation         | Chronic Active, Mild   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 134

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57303

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * 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      | * Larynx                    |
| * Liver                  | * Lymph Node, Bronchial    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    |
| * Mammary Gland          | * Pancreas                 | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- |                          |                     |
|--------------------------|---------------------|
| * Lymph Node, Mandibular | * Parathyroid Gland |
|--------------------------|---------------------|

OBSERVATIONS

- |                   |   |                                |                         |
|-------------------|---|--------------------------------|-------------------------|
| * Adrenal Cortex  |   | Hyperplasia                    | Minimal                 |
| * Bone            |   | Fibro-Osseous Lesion           | Minimal                 |
| * Harderian Gland |   | Adenoma                        |                         |
|                   | [ Adenoma TGLs = 1-11 ]                       |                                |                         |
| * Kidney          |   | Nephropathy                    | Minimal                 |
| * Lung            |   | Alveolar/Bronchiolar Carcinoma |                         |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ] |                                |                         |
| Mesentery         | Fat   | Necrosis                       | Mild                    |
|                   | [ Necrosis TGLs = 3-6 ]                       |                                |                         |
| * Nose            |   | Accumulation, Hyaline Droplet  | Mild                    |
|                   | Respirat Epith                                | Hyperplasia                    | Minimal                 |
|                   |   | Inflammation                   | Chronic Active, Minimal |
| * Ovary           |   | Hemorrhage                     | Minimal                 |
| * Pituitary Gland | Pars Distalis                                 | Hyperplasia                    | Moderate                |
| * Spleen          |   | Lymphoma Malignant             |                         |
| * Uterus          | Endometrium                                   | Hyperplasia                    | Cystic, Moderate        |
|                   |   | Inflammation                   | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 135

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57304

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Mammary Gland
- \* Salivary Glands
- \* Thyroid Gland
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Skin
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Pituitary Gland
- \* Stomach, Glandular

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- |   |   |   |   |
|---|---|---|---|
| <ul style="list-style-type: none"> <li>* Kidney</li> <li>* Liver</li> <li>* Lymph Node, Bronchial</li> <li>* Lymph Node, Mediastinal</li> <li>* Lymph Node, Mesenteric Mesentery</li> <li>* Nose</li> <li>* Ovary</li> <li style="padding-left: 20px;">[ Cyst TGLs = 1-8, 2-8 ]</li> <li>* Spleen</li> <li>* Thymus</li> <li>* Urinary Bladder</li> <li>* Uterus</li> </ul> | <ul style="list-style-type: none"> <li>Respirat Epith</li> <li>Endometrium</li> </ul> | <ul style="list-style-type: none"> <li>Lymphoma Malignant</li> <li>Nephropathy</li> <li>Basophilic Focus</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Hyperplasia</li> <li>Cyst</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Hyperplasia</li> </ul> | <ul style="list-style-type: none"> <li>Minimal</li> <li>Minimal</li> <li>Minimal</li> <li>Minimal</li> <li>Cystic, Minimal</li> </ul> |
|---|---|---|---|

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 136

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57305

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Salivary Glands
- \* Thymus
- \* Uterus
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Spleen
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mediastinal
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mesenteric
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney Nephropathy Minimal
- \* Liver Hepatocellular Adenoma
- [ Hepatocellular Adenoma TGLs = 3-6 ]
- Lymph Node Iliac Hyperplasia Lymphoid, Minimal
- [ Hyperplasia TGLs = 4-13 ]
- \* Mammary Gland Hyperplasia Minimal
- Mesentery Fat Necrosis Minimal
- [ Necrosis TGLs = 2-12 ]
- \* Nose Accumulation, Hyaline Droplet Mild
- Respirat Epith Hyperplasia Minimal
- \* Ovary Cyst Minimal
- [ Cyst TGLs = 1-8 ]
- \* Pancreas Fibrosis Marked
- [ Fibrosis TGLs = 5-14 ]
- \* Skin Hemangiosarcoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 137

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57306

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Larynx
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Uterus
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Salivary Glands
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Skin
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Thymus

OBSERVATIONS

- \* Islets, Pancreatic
  - \* Kidney
  - \* Liver
  - [ Hepatocellular Carcinoma TGLs = 1-12 ]
  - \* Lung
  - Alveolar Epith
  - \* Lymph Node, Mediastinal
  - [ Lymphoma Malignant TGLs = 4-3 ]
  - \* Lymph Node, Mesenteric
  - \* Nose
  - \* Ovary
  - [ Cyst TGLs = 3-8 ]
  - \* Pancreas
  - \* Spleen
  - [ Lymphoma Malignant TGLs = 2-5 ]
- Lymphoma Malignant
- Nephropathy
- Hepatocellular Carcinoma
- Tension Lipidosis
- Hyperplasia
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Hyperplasia
- Cyst
- Hemorrhage
- Lymphoma Malignant
- Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 138

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57307

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>* Adrenal Cortex</li> <li>* Kidney</li> <br/> <li>* Larynx</li> <li>* Liver</li> <li style="padding-left: 20px;">[ Hepatocellular Adenoma TGLs = 1-12, 2-13 ]</li> <li>* Lung</li> <li>* Nose</li> <br/> <li>* Ovary</li> <li style="padding-left: 20px;">[ Cystadenoma TGLs = 3-8 ]</li> <li>* Uterus</li> </ul> | <ul style="list-style-type: none"> <li>Hyperplasia</li> <li>Infarct</li> <li>Nephropathy</li> <li>Metaplasia</li> <li>Hepatocellular Adenoma</li> <br/> <li>Infiltration Cellular</li> <li>Accumulation, Hyaline Droplet</li> <li>Hyperplasia</li> <li>Cystadenoma</li> <li>Hemorrhage</li> <br/> <li>Hyperplasia</li> </ul> | <ul style="list-style-type: none"> <li>Minimal</li> <li>Mild</li> <li>Minimal</li> <li>Squamous, Minimal</li> <li>Multiple</li> <br/> <li>Histiocyte, Minimal</li> <li>Mild</li> <li>Mild</li> <li>Minimal</li> <br/> <li>Cystic, Mild</li> </ul> |
|--|--|---|

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 139

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57308

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Lung
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone
  - Fibro-Osseous Lesion
  - Inflammation
  - Nephropathy
  - Minimal
  - Chronic Active, Moderate
  - Mild
- \* Kidney
  - Cranium
  - Note: acute embolus or artifact in arcuate vein and artery left kidney
  - Clear Cell Focus
  - Hepatocellular Carcinoma
  - [ Clear Cell Focus TGLs = 1-5 ]
  - [ Hepatocellular Carcinoma TGLs = 2-6 ]
- \* Liver
- \* Nose
  - Accumulation, Hyaline Droplet
  - Hyperplasia
  - Inflammation
  - Mild
  - Mild
  - Suppurative, Minimal
- \* Pituitary Gland
  - Respirat Epith
  - Hyperplasia
  - Inflammation
  - Minimal
- Tooth
  - Pars Distalis
  - Hyperplasia
  - Dysplasia
  - Moderate
- \* Urinary Bladder
  - Angiectasis
  - Moderate
- \* Uterus
  - Endometrium
  - Hyperplasia
  - Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 140

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57309

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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      | * Larynx                    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                           |  |                        |                         |
|---------------------------|--|------------------------|-------------------------|
| * Kidney                  |  | Nephropathy            | Mild                    |
| * Liver                   |  | Hepatocellular Adenoma |                         |
|                           |  | Lymphoma Malignant     |                         |
|                           | [ Hepatocellular Adenoma TGLs = 2-12 ] |                        |                         |
| * Lung                    | Alveolar Epith                         | Hyperplasia            | Mild                    |
|                           | [ Hyperplasia TGLs = 4-4 ]             |                        |                         |
| Lymph Node                | Lumbar                                 | Lymphoma Malignant     |                         |
|                           | [ Lymphoma Malignant TGLs = 5-13 ]     |                        |                         |
| * Lymph Node, Mandibular  |  | Lymphoma Malignant     |                         |
|                           | [ Lymphoma Malignant TGLs = 1-8 ]      |                        |                         |
| * Lymph Node, Mediastinal |  | Lymphoma Malignant     |                         |
| * Nose                    | Respirat Epith                         | Hyperplasia            | Minimal                 |
| * Spleen                  |  | Lymphoma Malignant     |                         |
|                           | [ Lymphoma Malignant TGLs = 3-5 ]      |                        |                         |
| * Stomach, Glandular      |  | Degeneration           | Hyaline, Minimal        |
|                           |  | Inflammation           | Chronic Active, Minimal |
| * Uterus                  | Endometrium                            | Hyperplasia            | Cystic, Mild            |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 141

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57310

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * 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      | * Larynx                    | * Lung                   | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          | * Ovary                    |
| * Pancreas                | * Parathyroid Gland         | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

- \* Lymph Node, Bronchial

**OBSERVATIONS**

- |                   |  |                        |              |
|-------------------|--|------------------------|--------------|
| * Adrenal Cortex  |  | Hyperplasia            | Minimal      |
| * Kidney          |  | Nephropathy            | Minimal      |
| * Liver           |  | Hepatocellular Adenoma |              |
|                   | [ Hepatocellular Adenoma TGLs = 4-12 ] |                        |              |
| Mesentery         | Fat                                    | Necrosis               | Minimal      |
|                   | [ Necrosis TGLs = 1-13 ]               |                        |              |
| * Nose            | Respirat Epith                         | Hyperplasia            | Minimal      |
| * Pituitary Gland | Pars Distalis                          | Adenoma                |              |
| * Uterus          |  | Angiectasis            | Mild         |
|                   | Endometrium                            | Hyperplasia            | Cystic, Mild |
|                   | [ Angiectasis TGLs = 2-9 ]             |                        |              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 142

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57311

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Mammary Gland
- \* Skin
- \* Thyroid Gland

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
  - Lymphoma Malignant
  - Nephropathy
- \* Liver
  - Fatty Change
  - Hepatocellular Carcinoma
- [ Hepatocellular Carcinoma TGLs = 1-12 ]
- \* Lymph Node, Mesenteric
  - Lymphoma Malignant
- \* Nose
  - Accumulation, Hyaline Droplet
  - Hyperplasia
  - Inflammation
- Respirat Epith
- \* Ovary
  - Cyst
- [ Cyst TGLs = 4-8 ]
- \* Spleen
  - Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 2-5, 3-6 ]
- \* Uterus
  - Endometrium
  - Hyperplasia

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 143

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57312

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Liver
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Minimal
- \* Lung Alveolar/Bronchiolar Carcinoma
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ]
- Mesentery Fat Necrosis Minimal
- [ Necrosis TGLs = 3-6 ]
- \* Nose Respirat Epith Hyperplasia Minimal
- \* Ovary Cyst Mild
- [ Cyst TGLs = 2-8 ]
- \* Uterus Endometrium Hyperplasia Cystic, Mild

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 144

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57313

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Larynx                    | * Mammary Gland          | * Pancreas                 |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- |                         |                     |
|-------------------------|---------------------|
| * Lymph Node, Bronchial | * Parathyroid Gland |
|-------------------------|---------------------|

OBSERVATIONS

- |                                   |                |                      |         |
|-----------------------------------|----------------|----------------------|---------|
| * Bone                            |                | Fibro-Osseous Lesion | Mild    |
| * Kidney                          |                | Nephropathy          | Mild    |
| * Liver                           |                | Lymphoma Malignant   |         |
|                                   |                | Tension Lipidosis    |         |
| * Lung                            |                | Lymphoma Malignant   |         |
| * Lymph Node, Mandibular          |                | Lymphoma Malignant   |         |
| * Lymph Node, Mediastinal         |                | Lymphoma Malignant   |         |
| * Lymph Node, Mesenteric          |                | Lymphoma Malignant   |         |
| Mesentery                         | Fat            | Necrosis             | Minimal |
| [ Necrosis TGLs = 2-12 ]          |                |                      |         |
| * Nose                            | Respirat Epith | Hyperplasia          | Minimal |
| * Ovary                           |                | Cyst                 | Mild    |
| * Pituitary Gland                 | Pars Distalis  | Hyperplasia          | Minimal |
| * Spleen                          |                | Lymphoma Malignant   |         |
| * Thymus                          |                | Lymphoma Malignant   |         |
| [ Lymphoma Malignant TGLs = 1-3 ] |                |                      |         |
| * Uterus                          |                | Hemangiosarcoma      |         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 145

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57314

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Mammary Gland
- \* Skin
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Thyroid Gland

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Liver
- Lymph Node
- [ Lymphoma Malignant TGLs = 3-6 ]
- [ Lymphoma Malignant TGLs = 4-12 ]
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- Mesentery
- \* Nose
- \* Ovary
- \* Spleen
- [ Lymphoma Malignant TGLs = 1-5 ]
- \* Thymus
- Lumbar
- Renal
- Respirat Epith
- Hyperplasia
- Fibro-Osseous Lesion
- Nephropathy
- Basophilic Focus
- Lymphoma Malignant
- Lymphoma Malignant
- Angiectasis
- Lymphoma Malignant
- Accumulation, Hyaline Droplet
- Hyperplasia
- Angiectasis
- Inflammation
- Lymphoma Malignant
- Lymphoma Malignant
- Minimal
- Mild
- Minimal
- Mild
- Minimal
- Marked
- Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 145

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** Control

**DISP:** Terminal Sacrifice

**HISTO:** 57314

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Uterus

Endometrium

Hyperplasia  
Inflammation

Cystic, Minimal  
Suppurative, Mild

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 146

TRT#: 2

SEX: Female

DAY ON TEST: 733

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57315

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Larynx                    | * Liver                  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          | * Nose                     |
| * Ovary                   | * Pancreas                  | * Pituitary Gland        | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- |               |                         |                     |
|---------------|-------------------------|---------------------|
| * Gallbladder | * Lymph Node, Bronchial | * Parathyroid Gland |
|---------------|-------------------------|---------------------|

OBSERVATIONS

- |          |              |                   |                         |
|----------|--------------|-------------------|-------------------------|
| * Kidney |              | Nephropathy       | Minimal                 |
| * Lung   | Perivascular | Inflammation      | Chronic Active, Minimal |
| * Uterus | Endometrium  | Decidual Reaction | Moderate                |
|          |              | Hyperplasia       | Cystic, Moderate        |

[ Decidual Reaction TGLs = 1-9 ]

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 147

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57316

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Larynx
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Urinary Bladder
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |                |                               |         |
|-------------------|----------------|-------------------------------|---------|
| * Bone            |                | Fibro-Osseous Lesion          | Mild    |
| * Kidney          |                | Nephropathy                   | Mild    |
| * Liver           |                | Basophilic Focus              |         |
| * Lung            | Bronchiole     | Hyperplasia                   | Minimal |
| * Nose            |                | Accumulation, Hyaline Droplet | Mild    |
|                   | Respirat Epith | Hyperplasia                   | Minimal |
| * Ovary           |                | Angiectasis                   | Mild    |
|                   |                | Hemorrhage                    | Minimal |
|                   |                | Mineralization                | Mild    |
| * Pituitary Gland | Pars Distalis  | Hyperplasia                   | Minimal |
| * Uterus          |                | Angiectasis                   | Mild    |

[ Angiectasis TGLs = 1-9 ]

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 148

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57317

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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      | * Larynx                    | * Lymph Node, Bronchial  |
| * Lymph Node, Mandibular   | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

OBSERVATIONS

- |                   |   |                                |                         |
|-------------------|---|--------------------------------|-------------------------|
| * Kidney          |   | Nephropathy                    | Minimal                 |
| * Liver           |   | Hepatocellular Adenoma         |                         |
|                   | [ Hepatocellular Adenoma TGLs = 1-6 ]         |                                |                         |
| * Lung            |   | Alveolar/Bronchiolar Adenoma   |                         |
|                   |   | Alveolar/Bronchiolar Carcinoma |                         |
|                   |   | Infiltration Cellular          | Histiocyte, Minimal     |
|                   |   | Inflammation                   | Chronic Active, Minimal |
|                   | Perivascular                                  |                                |                         |
|                   | [ Alveolar/Bronchiolar Adenoma TGLs = 3-4 ]   |                                |                         |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ] |                                |                         |
| * Nose            |   | Accumulation, Hyaline Droplet  | Mild                    |
|                   | Respirat Epith                                | Hyperplasia                    | Mild                    |
|                   |   | Inflammation                   | Chronic Active, Minimal |
| * Ovary           |   | Hemorrhage                     | Minimal                 |
| * Pituitary Gland | Pars Distalis                                 | Hyperplasia                    | Moderate                |
| * Uterus          | Endometrium                                   | Hyperplasia                    | Cystic, Minimal         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 149

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: Control

DISP: Terminal Sacrifice

HISTO: 57318

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * 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      |
| * Larynx                    | * Lung                   | * Lymph Node, Bronchial    | * Lymph Node, Mandibular  |
| * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Ovary                     | * Pancreas               | * Pituitary Gland          | * Salivary Glands         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

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

OBSERVATIONS

- |               |  |                        |              |
|---------------|--|------------------------|--------------|
| * Bone        | Femur                                  | Sarcoma                |              |
| * Bone Marrow |  | Sarcoma                |              |
| * Kidney      |  | Nephropathy            | Mild         |
| * Liver       |  | Hepatocellular Adenoma |              |
|               | [ Hepatocellular Adenoma TGLs = 1-12 ] |                        |              |
| * Uterus      |  | Angiectasis            | Mild         |
|               | Endometrium                            | Hyperplasia            | Cystic, Mild |
|               | [ Angiectasis TGLs = 2-9 ]             |                        |              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 150

TRT#: 2

SEX: Female

DAY ON TEST: 702

DOSE: Control

DISP: Natural Death

HISTO: 57319

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Clitoral Gland
- \* Esophagus
- \* Eye
- \* Gallbladder
- \* Harderian Gland
- \* Heart
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Intestine Small, Ileum
- \* Islets, Pancreatic
- \* Larynx
- \* Liver
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

AUTO PRECLUDES DIAG.

- \* Intestine Small, Duodenum
- \* Intestine Small, Jejunum

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Kidney Nephropathy Minimal
- \* Lung Perivascular Inflammation Chronic Active, Mild
- Mesentery Inflammation Chronic Active, Mild
- \* Nose Respirat Epith Hyperplasia Minimal
- Inflammation Chronic Active, Minimal
- \* Skin Epidermis Hyperplasia Mild
- [ Hyperplasia TGLs = 2-6 ]
- Tissue NOS Mediastinum Infiltration Cellular Lymphocyte, Moderate
- [ Infiltration Cellular TGLs = 3-6 ]
- \* Uterus Endometrium Hyperplasia Cystic, Mild

PRIMARY CAUSE OF DEATH - UNCERTAIN

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 301

TRT#: 4

SEX: Female

DAY ON TEST: 677

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57570

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Esophagus
- \* Eye
- \* Gallbladder
- \* 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, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder
- \* Uterus

MISSING

- \* Clitoral Gland
- \* Lymph Node, Bronchial
- \* Thymus

OBSERVATIONS

- \* Bone
  - Fibro-Osseous Lesion
  - Minimal
- \* Harderian Gland
  - Adenoma
  - Inflammation
  - Chronic Active, Marked
  - [ Adenoma TGLs = 2-11 ]
  - [ Inflammation TGLs = 2-11 ]
- \* Heart
  - Cardiomyopathy
  - Moderate
  - [ Cardiomyopathy TGLs = 1-5 ]
- \* Kidney
  - Nephropathy
  - Moderate
  - [ Nephropathy TGLs = 6-6 ]
- \* Larynx
  - Epiglottis
  - Fibrosis
  - Metaplasia
  - Minimal
- \* Liver
  - Hepatocellular Adenoma
  - Infiltration Cellular
  - Squamous, Minimal
  - Mixed Cell, Moderate
  - [ Hepatocellular Adenoma TGLs = 3-6 ]
  - [ Infiltration Cellular TGLs = 4-5 ]
- Lymph Node
  - Renal
  - Hyperplasia
  - Lymphoid, Moderate
  - Lumbar
  - Hyperplasia
  - Lymphoid, Moderate
  - [ Hyperplasia TGLs = 8-12 ]
  - [ Hyperplasia TGLs = 9-13 ]
- \* Lymph Node, Mediastinal
  - Hyperplasia
  - Lymphoid, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 301

TRT#: 4

SEX: Female

DAY ON TEST: 677

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57570

ORGAN AND ACCOUNTABLE SITE STATUS

Mesentery		Inflammation	Chronic Active, Mild
* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
* Ovary		Inflammation	Chronic Active, Marked
	[ Inflammation TGLs = 7-8 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
	[ Hematopoietic Cell Proliferation TGLs = 5-5 ]		
* Stomach, Forestomach		Ulcer	Minimal

PRIMARY CAUSE OF DEATH - Harderian Gland Inflammation

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 302

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57571

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Ovary
- \* Skin
- \* Thymus
- \* Uterus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 2-6, 3-12 ]
- Mesentery
- [ Necrosis TGLs = 1-13 ]
- \* Nose
- Respirat Epith
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Tension Lipidosis
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Mild
- Squamous, Minimal
- Multiple
- Minimal
- Minimal
- Moderate
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 303

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57572

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                   |
| * Lymph Node, Bronchial    | * 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           |                          |

MISSING

- \* Lymph Node, Mediastinal

OBSERVATIONS

- |                         |                |                               |                   |
|-------------------------|----------------|-------------------------------|-------------------|
| * Kidney                |                | Nephropathy                   | Mild              |
| * Larynx                |                | Metaplasia                    | Squamous, Minimal |
| Mesentery               | Fat            | Necrosis                      | Minimal           |
| [ Necrosis TGLs = 1-6 ] |                |                               |                   |
| * Nose                  |                | Accumulation, Hyaline Droplet | Minimal           |
|                         | Respirat Epith | Hyperplasia                   | Minimal           |
| * Ovary                 |                | Cyst                          | Mild              |
|                         |                | Hemorrhage                    | Minimal           |
| [ Cyst TGLs = 2-8 ]     |                |                               |                   |
| * Pituitary Gland       | Pars Distalis  | Hyperplasia                   | Minimal           |
| * Uterus                | Endometrium    | Hyperplasia                   | Cystic, Moderate  |
|                         |                | Polyp Stromal                 |                   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 304

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57573

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- Peripheral Nerve
- \* Salivary Glands
- Skeletal Muscle
- \* Skin
- Spinal Cord
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Minimal
- \* Larynx Metaplasia Squamous, Minimal
- \* Liver Hepatocellular Adenoma
- [ Hepatocellular Adenoma TGLs = 4-5 ]
- \* Lung Alveolar/Bronchiolar Adenoma
- [ Alveolar/Bronchiolar Adenoma TGLs = 1-13 ]
- Lymph Node Iliac Lymphoma Malignant
- Renal Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 7-15, 9-16 ]
- [ Lymphoma Malignant TGLs = 6-14 ]
- \* Lymph Node, Mandibular Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- \* Nose Accumulation, Hyaline Droplet Mild
- Respirat Epith Hyperplasia Mild
- Glands, Olfactory Epi Hyperplasia Minimal
- \* Ovary Cyst Mild
- Hemorrhage Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 304

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57573

ORGAN AND ACCOUNTABLE SITE STATUS

Lymphoma Malignant

[ Cyst TGLs = 2-8 ]

\* Pituitary Gland

Pars Distalis

Hyperplasia

Mild

\* Spleen

Hemangiosarcoma

[ Hemangiosarcoma TGLs = 8-5 ]

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

[ Hyperplasia TGLs = 3-9 ]

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 305

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57574

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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      |
| * Liver                     | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric    | * Mammary Gland          | * Pancreas                 | * Salivary Glands         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- |                  |                     |
|------------------|---------------------|
| * Clitoral Gland | * Parathyroid Gland |
|------------------|---------------------|

OBSERVATIONS

- |                          |                |                               |                     |
|--------------------------|----------------|-------------------------------|---------------------|
| * Bone                   |                | Fibro-Osseous Lesion          | Mild                |
| * Kidney                 |                | Nephropathy                   | Mild                |
| * Larynx                 |                | Metaplasia                    | Squamous, Minimal   |
| * Lung                   |                | Infiltration Cellular         | Histiocyte, Minimal |
| Mesentery                | Fat            | Necrosis                      | Minimal             |
| [ Necrosis TGLs = 1-12 ] |                |                               |                     |
| * Nose                   |                | Accumulation, Hyaline Droplet | Minimal             |
|                          | Respirat Epith | Hyperplasia                   | Mild                |
| * Ovary                  |                | Hemorrhage                    | Minimal             |
| * Pituitary Gland        | Pars Distalis  | Hyperplasia                   | Minimal             |
| * Uterus                 | Endometrium    | Hyperplasia                   | Cystic, Mild        |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 306

TRT#: 4

SEX: Female

DAY ON TEST: 599

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57575

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Kidney
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Clitoral Gland
- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Heart
  - [ Necrosis TGLs = 3-5 ]
- \* Larynx
- \* Liver
  - [ Degeneration TGLs = 4-5 ]
- \* Lung
  - [ Hemorrhage TGLs = 2-4 ]
- Mesentery
  - [ Necrosis TGLs = 6-12 ]
- \* Nose
- \* Uterus
- Fat
- Respirat Epith
- Necrosis
- Thrombosis
- Metaplasia
- Degeneration
- Hemorrhage
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Necrosis
- Dilatation
- Mild
- Moderate
- Squamous, Minimal
- Moderate
- Mild
- Moderate
- Mild
- Mild
- Minimal
- Mild

PRIMARY CAUSE OF DEATH

- Heart Necrosis

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 307

TRT#: 4

SEX: Female

DAY ON TEST: 677

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57576

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone
- \* 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, Bronchial
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Heart
  - [ Congestion TGLs = 1-5 ]
 Congestion Minimal
- \* Kidney
  - [ Hepatocellular Carcinoma TGLs = 6-6, 7-13 ]
 Nephropathy Mild
- \* Larynx
  - [ Hepatocellular Carcinoma TGLs = 2-12 ]
 Metaplasia Squamous, Minimal
- \* Liver
  - [ Hepatocellular Carcinoma TGLs = 6-6, 7-13 ]
 Hepatocellular Carcinoma Multiple
- \* Lung
  - [ Hepatocellular Carcinoma TGLs = 2-12 ]
 Hepatocellular Carcinoma Metastatic (Liver)
- \* Mesentery
  - [ Necrosis TGLs = 4-14 ]
 Necrosis Minimal
- \* Nose
  - [ Infiltration Cellular TGLs = 3-8 ]
 Accumulation, Hyaline Droplet Moderate
  - Respirat Epith Hyperplasia Minimal
  - Olfactory Epi Metaplasia Respiratory, Minimal
- \* Ovary
  - [ Infiltration Cellular TGLs = 3-8 ]
 Infiltration Cellular Lymphocyte, Mild
- \* Spleen
  - [ Hematopoietic Cell Proliferation TGLs = 5-5 ]
 Hematopoietic Cell Proliferation Minimal
- \* Uterus
  - [ Hematopoietic Cell Proliferation TGLs = 5-5 ]
 Angiectasis Mild

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 308

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57577

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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, Bronchial  |
| * Lymph Node, Mandibular   | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

OBSERVATIONS

- |                   |                                  |                               |                   |
|-------------------|----------------------------------|-------------------------------|-------------------|
| * Kidney          |                                  | Nephropathy                   | Mild              |
| * Larynx          |                                  | Metaplasia                    | Squamous, Minimal |
| * Liver           |                                  | Basophilic Focus              |                   |
|                   | [ Basophilic Focus TGLs = 1-12 ] |                               |                   |
| * Nose            |                                  | Accumulation, Hyaline Droplet | Minimal           |
|                   | Respirat Epith                   | Hyperplasia                   | Minimal           |
| * Ovary           |                                  | Luteoma                       |                   |
| * Pituitary Gland | Pars Distalis                    | Hyperplasia                   | Mild              |
| * Uterus          | Endometrium                      | Hyperplasia                   | Cystic, Minimal   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 309

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57578

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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                     | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric    | * Mammary Gland          | * Pancreas                 | * Parathyroid Gland       |
| * Salivary Glands           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |

MISSING

- \* Thyroid Gland

OBSERVATIONS

- |                   |                                      |                               |                     |
|-------------------|--------------------------------------|-------------------------------|---------------------|
| * Adrenal Cortex  |                                      | Hyperplasia                   | Minimal             |
| * Bone            |                                      | Fibro-Osseous Lesion          | Minimal             |
| * Kidney          |                                      | Nephropathy                   | Minimal             |
| * Larynx          |                                      | Metaplasia                    | Squamous, Minimal   |
| * Lung            | Bronchiole                           | Hyperplasia                   | Minimal             |
|                   |                                      | Infiltration Cellular         | Lymphocyte, Minimal |
|                   | [ Infiltration Cellular TGLs = 4-4 ] |                               |                     |
| Lymph Node        | Renal                                | Hyperplasia                   | Lymphoid, Mild      |
|                   | [ Hyperplasia TGLs = 2-12 ]          |                               |                     |
| * Nose            |                                      | Accumulation, Hyaline Droplet | Minimal             |
|                   | Respirat Epith                       | Hyperplasia                   | Minimal             |
| * Ovary           |                                      | Hemorrhage                    | Minimal             |
| * Pituitary Gland | Pars Distalis                        | Hyperplasia                   | Minimal             |
| * Uterus          | Endometrium                          | Dilatation                    | Moderate            |
|                   |                                      | Hyperplasia                   | Cystic, Moderate    |
|                   | [ Dilatation TGLs = 1-9 ]            |                               |                     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 310

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57579

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                     | * Lymph Node, Bronchial  |
| * Mammary Gland            | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Stomach, Glandular       | * Thyroid Gland           | * Trachea                   | * Uterus                 |

OBSERVATIONS

- |                           |                                    |                               |                    |
|---------------------------|------------------------------------|-------------------------------|--------------------|
| * Kidney                  |                                    | Lymphoma Malignant            |                    |
|                           |                                    | Nephropathy                   | Minimal            |
| * Larynx                  |                                    | Metaplasia                    | Squamous, Minimal  |
| * Lung                    |                                    | Lymphoma Malignant            |                    |
|                           | [ Lymphoma Malignant TGLs = 2-12 ] |                               |                    |
| * Lymph Node, Mandibular  |                                    | Lymphoma Malignant            |                    |
| * Lymph Node, Mediastinal |                                    | Lymphoma Malignant            |                    |
| * Lymph Node, Mesenteric  |                                    | Lymphoma Malignant            |                    |
| * Nose                    |                                    | Accumulation, Hyaline Droplet | Mild               |
|                           | Respirat Epith                     | Hyperplasia                   | Minimal            |
| * Ovary                   |                                    | Lymphoma Malignant            |                    |
| * Pancreas                |                                    | Lymphoma Malignant            |                    |
| * Pituitary Gland         |                                    | Angiectasis                   | Moderate           |
|                           | [ Angiectasis TGLs = 1-9 ]         |                               |                    |
| * Spleen                  |                                    | Lymphoma Malignant            |                    |
| * Stomach, Forestomach    |                                    | Hyperplasia                   | Squamous, Moderate |
| * Thymus                  |                                    | Lymphoma Malignant            |                    |
| * Urinary Bladder         |                                    | Lymphoma Malignant            |                    |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 311

TRT#: 4

SEX: Female

DAY ON TEST: 635

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57580

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Salivary Glands
- \* Thymus
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Spleen
- \* Thyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Bone
  - \* Kidney
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Adenoma TGLs = 3-12 ]
    - Mesentery Fat
    - [ Necrosis TGLs = 2-13 ]
  - \* Nose
  - \* Skin
    - [ Fibrosarcoma TGLs = 1-14 ]
  - \* Trachea
  - \* Uterus
- |  |                |                               |                      |
|--|----------------|-------------------------------|----------------------|
|  | Epiglottis     | Vacuolization Cytoplasmic     | Moderate             |
|  |                | Fibro-Osseous Lesion          | Mild                 |
|  |                | Nephropathy                   | Mild                 |
|  |                | Fibrosis                      | Minimal              |
|  |                | Metaplasia                    | Squamous, Mild       |
|  |                | Angiectasis                   | Minimal              |
|  |                | Hepatocellular Adenoma        |                      |
|  |                | Necrosis                      | Mild                 |
|  |                | Accumulation, Hyaline Droplet | Mild                 |
|  | Respirat Epith | Hyperplasia                   | Minimal              |
|  | Olfactory Epi  | Metaplasia                    | Respiratory, Minimal |
|  |                | Fibrosarcoma                  |                      |
|  |                | Metaplasia                    | Squamous, Minimal    |
|  | Endometrium    | Hyperplasia                   | Cystic, Mild         |

PRIMARY CAUSE OF DEATH - Skin Fibrosarcoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 312

TRT#: 4

SEX: Female

DAY ON TEST: 717

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57581

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * 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, Mediastinal  | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| Peripheral Nerve            | * Salivary Glands        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        | * Uterus                   |                           |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |  |                               |                     |
|-------------------|--|-------------------------------|---------------------|
| * Adrenal Medulla |  | Hyperplasia                   | Mild                |
| * Harderian Gland |  | Hyperplasia                   | Minimal             |
| * Kidney          |  | Nephropathy                   | Mild                |
| * Larynx          |  | Metaplasia                    | Squamous, Minimal   |
| * Liver           |  | Cyst                          | Mild                |
|                   |  | Hepatocellular Carcinoma      |                     |
|                   | [ Cyst TGLs = 1-5 ]                      |                               |                     |
|                   | [ Hepatocellular Carcinoma TGLs = 2-13 ] |                               |                     |
| * Nose            |  | Accumulation, Hyaline Droplet | Mild                |
| * Pituitary Gland | Pars Distalis                            | Hyperplasia                   | Mild                |
| Skeletal Muscle   |  | Infiltration Cellular         | Lymphocyte, Minimal |
| Spinal Cord       |  | Infiltration Cellular         | Lymphocyte, Minimal |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 313

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57582

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Bone Marrow            | * Esophagus                |
| * Eye                     | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          | * Pancreas                 |
| * Salivary Glands         | * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- |               |                     |
|---------------|---------------------|
| * Gallbladder | * Parathyroid Gland |
|---------------|---------------------|

OBSERVATIONS

- |                   |                           |                               |                         |
|-------------------|---------------------------|-------------------------------|-------------------------|
| * Adrenal Cortex  |                           | Hyperplasia                   | Minimal                 |
| * Brain           |                           | Compression                   | Mild                    |
| * Clitoral Gland  |                           | Inflammation                  | Chronic Active, Minimal |
| * Harderian Gland |                           | Carcinoma                     |                         |
|                   | [ Carcinoma TGLs = 1-11 ] |                               |                         |
| * Kidney          |                           | Infarct                       | Mild                    |
|                   |                           | Nephropathy                   | Mild                    |
| * Larynx          | Epiglottis                | Fibrosis                      | Minimal                 |
|                   |                           | Metaplasia                    | Squamous, Minimal       |
| * Liver           |                           | Hepatocellular Adenoma        |                         |
| Mesentery         | Fat                       | Necrosis                      | Minimal                 |
|                   | [ Necrosis TGLs = 4-12 ]  |                               |                         |
| * Nose            |                           | Accumulation, Hyaline Droplet | Mild                    |
|                   | Respirat Epith            | Hyperplasia                   | Mild                    |
| * Ovary           |                           | Cyst                          | Moderate                |
|                   |                           | Hemorrhage                    | Minimal                 |
|                   | Corpus Luteum             | Hyperplasia                   | Mild                    |
|                   | [ Cyst TGLs = 3-8 ]       |                               |                         |
| * Pituitary Gland | Pars Distalis             | Adenoma                       |                         |
|                   | [ Adenoma TGLs = 2-9 ]    |                               |                         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

**ANIMAL ID:** 313

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 10 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57582

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

Lymphoma Malignant

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 314

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57583

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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      |
| * Liver                     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |                         |                               |                   |
|-------------------|-------------------------|-------------------------------|-------------------|
| * Bone            |                         | Fibro-Osseous Lesion          | Minimal           |
| * Harderian Gland |                         | Adenoma                       |                   |
|                   | [ Adenoma TGLs = 1-11 ] |                               |                   |
| * Kidney          |                         | Nephropathy                   | Minimal           |
| * Larynx          |                         | Metaplasia                    | Squamous, Minimal |
| * Lung            | Bronchiole              | Hyperplasia                   | Minimal           |
| * Nose            |                         | Accumulation, Hyaline Droplet | Minimal           |
|                   | Respirat Epith          | Hyperplasia                   | Mild              |
| * Ovary           |                         | Cyst                          | Mild              |
|                   | [ Cyst TGLs = 2-8 ]     |                               |                   |
| * Pituitary Gland | Pars Distalis           | Hyperplasia                   | Minimal           |
| * Uterus          | Endometrium             | Hyperplasia                   | Cystic, Minimal   |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 315

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57584

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* 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, Bronchial	* Lymph Node, Mandibular	* Mammary Gland
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Kidney		Lymphoma Malignant	
		Nephropathy	Minimal
* Larynx		Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
	[ Basophilic Focus TGLs = 1-5 ]		
* Lung		Lymphoma Malignant	
Lymph Node	Lumbar	Ectasia	Mild
	Lumbar	Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 4-12 ]		
* Lymph Node, Mediastinal		Lymphoma Malignant	
* Lymph Node, Mesenteric		Lymphoma Malignant	
* Nose		Accumulation, Hyaline Droplet	Mild
	Respirat Epith	Hyperplasia	Minimal
* Ovary		Cyst	Mild
		Lymphoma Malignant	
	[ Cyst TGLs = 3-8 ]		
* Pancreas		Lymphoma Malignant	
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 2-5 ]		

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 316

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57585

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Mild
- \* Larynx Epiglottis Fibrosis Minimal
- Metaplasia Squamous, Minimal
- Lymph Node Iliac Hyperplasia Lymphoid, Minimal
- [ Hyperplasia TGLs = 3-13 ]
- Mesentery Fat Necrosis Mild
- [ Necrosis TGLs = 2-12 ]
- \* Nose Accumulation, Hyaline Droplet Minimal
- Respirat Epith Hyperplasia Minimal
- \* Ovary Hemorrhage Minimal
- \* Pituitary Gland Pars Distalis Hyperplasia Mild
- \* Spleen Lymphoma Malignant
- \* Thyroid Gland Inflammation Chronic Active, Minimal
- \* Urinary Bladder Artery, Serosa Inflammation Chronic Active, Moderate
- \* Uterus Angiectasis Marked
- Endometrium Hyperplasia Cystic, Mild
- [ Angiectasis TGLs = 1-8 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 317

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57586

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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            |
| * Pancreas                | * Salivary Glands           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                           |   |                                |                   |
|---------------------------|---|--------------------------------|-------------------|
| * Bone                    |   | Fibro-Osseous Lesion           | Mild              |
| * Kidney                  |   | Nephropathy                    | Mild              |
| * Larynx                  |   | Metaplasia                     | Squamous, Minimal |
| * Liver                   | [ Hepatocellular Adenoma TGLs = 3-6 ]         | Hepatocellular Adenoma         |                   |
| * Lung                    |   | Alveolar/Bronchiolar Carcinoma |                   |
|                           | Alveolar Epith                                | Hyperplasia                    | Moderate          |
|                           | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ] | Lymphoma Malignant             |                   |
| * Lymph Node, Bronchial   |   | Lymphoma Malignant             |                   |
| * Lymph Node, Mediastinal |   | Lymphoma Malignant             |                   |
| * Nose                    |   | Accumulation, Hyaline Droplet  | Minimal           |
|                           | Respirat Epith                                | Hyperplasia                    | Minimal           |
| * Ovary                   |   | Hemorrhage                     | Minimal           |
| * Pituitary Gland         | Pars Distalis                                 | Hyperplasia                    | Marked            |
| * Spleen                  |   | Lymphoma Malignant             |                   |
|                           | [ Lymphoma Malignant TGLs = 1-5 ]             |                                |                   |
| * Thymus                  |   | Lymphoma Malignant             |                   |
| * Uterus                  | Endometrium                                   | Hyperplasia                    | Cystic, Minimal   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 318

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57587

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Mammary Gland
- \* Skin
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Stomach, Forestomach
- \* Trachea
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Adrenal Medulla
- \* Bone
- \* Kidney
- \* Larynx
- Lymph Node
  - Iliac
  - [ Lymphoma Malignant TGLs = 5-13 ]
- Mesentery
  - Fat
  - [ Necrosis TGLs = 4-5 ]
- \* Nose
- \* Pancreas
  - Cyst TGLs = 3-12 ]
- \* Pituitary Gland
  - Pars Distalis
  - [ Adenoma TGLs = 1-9 ]
- \* Spleen
- \* Uterus
  - Endometrium
  - [ Hyperplasia TGLs = 2-9 ]
- Pheochromocytoma Benign
- Fibro-Osseous Lesion
- Nephropathy
- Metaplasia
- Lymphoma Malignant
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Cyst
- Adenoma
- Lymphoma Malignant
- Hyperplasia
- Minimal
- Mild
- Squamous, Mild
- Mild
- Minimal
- Mild
- Moderate
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 319

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57588

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Infarct Mild
- \* Larynx Lymphoma Malignant
- \* Liver Nephropathy Mild
- \* Lung Metaplasia Squamous, Minimal
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Nose Accumulation, Hyaline Droplet Mild
- \* Ovary Respirat Epith Hyperplasia Minimal
- \* Ovary Hemorrhage Minimal
- \* Pituitary Gland Pars Distalis Lymphoma Malignant
- \* Spleen Hyperplasia Minimal
- \* Thymus Lymphoma Malignant
- \* Trachea Lymphoma Malignant
- \* Urinary Bladder Metaplasia Squamous, Minimal
- \* Uterus Lymphoma Malignant
- \* Uterus Endometrium Hyperplasia Cystic, Mild

[ Hyperplasia TGLs = 1-12 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 320

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57589

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                            |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Mediastinal | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Ovary                     | * Pancreas                | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach    | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |
| * Uterus                  |                             |                           |                            |

MISSING

- |                         |                     |
|-------------------------|---------------------|
| * Lymph Node, Bronchial | * Parathyroid Gland |
|-------------------------|---------------------|

OBSERVATIONS

- |                   |  |                               |                         |
|-------------------|--|-------------------------------|-------------------------|
| * Bone            |  | Fibro-Osseous Lesion          | Mild                    |
| * Kidney          |  | Nephropathy                   | Mild                    |
| * Larynx          |  | Metaplasia                    | Squamous, Minimal       |
| * Liver           |  | Hepatocellular Carcinoma      |                         |
|                   | [ Hepatocellular Carcinoma TGLs = 2-12 ] |                               |                         |
| * Lung            | Perivascular                             | Inflammation                  | Chronic Active, Minimal |
|                   | [ Inflammation TGLs = 1-4 ]              |                               |                         |
| * Nose            |  | Accumulation, Hyaline Droplet | Mild                    |
|                   | Respirat Epith                           | Hyperplasia                   | Minimal                 |
| * Pituitary Gland | Pars Distalis                            | Hyperplasia                   | Mild                    |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 321

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57590

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Liver
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Ileum
- \* Lung
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Spleen
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Intestine Large, Cecum
- \* Kidney
- \* Larynx
- \* Nose
- \* Pituitary Gland
- \* Thyroid Gland
- \* Uterus
- Epiglottis
- Respirat Epith
- Pars Distalis
- Follicle
- Endometrium
- Endometrium
- Adenoma
- Nephropathy
- Fibrosis
- Metaplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Cyst
- Adenoma
- Hyperplasia
- Mild
- Minimal
- Squamous, Minimal
- Mild
- Minimal
- Moderate
- Mild
- Cystic, Minimal

[ Adenoma TGLs = 1-9 ]



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 322

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57591

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla         | * 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, Mandibular    | * Lymph Node, Mediastinal | * 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           |                           |                            |                           |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |          |             |                               |                   |
|----------|-------------|-------------------------------|-------------------|
| * Bone   |             | Fibro-Osseous Lesion          | Mild              |
| * Heart  |             | Cardiomyopathy                | Mild              |
| * Kidney |             | Nephropathy                   | Mild              |
| * Larynx |             | Metaplasia                    | Squamous, Minimal |
| * Liver  |             | Tension Lipidosis             |                   |
| * Lung   | Bronchiole  | Hyperplasia                   | Minimal           |
| * Nose   |             | Accumulation, Hyaline Droplet | Mild              |
| * Uterus | Endometrium | Hyperplasia                   | Cystic, Mild      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 323

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57592

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Spleen
- \* Thyroid Gland
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Medulla
  - \* Bone
  - \* Kidney
    - [ Infarct TGLs = 5-6 ]
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Carcinoma TGLs = 4-12 ]
  - Mesentery
    - Fat
    - [ Necrosis TGLs = 2-13, 3-14 ]
  - \* Nose
    - Respirat Epith
  - \* Pituitary Gland
    - Pars Distalis
  - \* Uterus
    - [ Hemangiosarcoma TGLs = 1-9 ]
- |  |                               |                   |
|--|-------------------------------|-------------------|
|  | Pheochromocytoma Benign       |                   |
|  | Fibro-Osseous Lesion          | Minimal           |
|  | Infarct                       | Mild              |
|  | Nephropathy                   | Mild              |
|  | Metaplasia                    | Squamous, Minimal |
|  | Fatty Change                  | Minimal           |
|  | Hepatocellular Carcinoma      |                   |
|  | Necrosis                      | Mild              |
|  | Accumulation, Hyaline Droplet | Mild              |
|  | Hyperplasia                   | Mild              |
|  | Hyperplasia                   | Minimal           |
|  | Hemangiosarcoma               |                   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 324

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57593

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Bronchial  | * Lymph Node, Mandibular   | * Mammary Gland           |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

OBSERVATIONS

- |                           |                                    |                               |                   |
|---------------------------|------------------------------------|-------------------------------|-------------------|
| * Adrenal Cortex          |                                    | Hyperplasia                   | Minimal           |
| * Harderian Gland         |                                    | Adenoma                       |                   |
|                           | [ Adenoma TGLs = 1-11 ]            |                               |                   |
| * Kidney                  |                                    | Lymphoma Malignant            |                   |
|                           |                                    | Metaplasia                    | Osseous, Minimal  |
|                           |                                    | Nephropathy                   | Minimal           |
| * Larynx                  |                                    | Metaplasia                    | Squamous, Minimal |
| * Liver                   |                                    | Tension Lipidosis             |                   |
| Lymph Node                | Lumbar                             | Lymphoma Malignant            |                   |
|                           | [ Lymphoma Malignant TGLs = 3-12 ] |                               |                   |
| * Lymph Node, Mediastinal |                                    | Lymphoma Malignant            |                   |
| * Lymph Node, Mesenteric  |                                    | Lymphoma Malignant            |                   |
| * Nose                    |                                    | Accumulation, Hyaline Droplet | Mild              |
|                           | Respirat Epith                     | Hyperplasia                   | Mild              |
| * Pituitary Gland         | Pars Distalis                      | Hyperplasia                   | Minimal           |
| * Spleen                  |                                    | Lymphoma Malignant            |                   |
|                           | [ Lymphoma Malignant TGLs = 2-5 ]  |                               |                   |
| * Uterus                  | Endometrium                        | Hyperplasia                   | Cystic, Mild      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 325

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57594

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Skin Tissue NOS
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Ovary
- \* Stomach, Forestomach
- \* Trachea
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Salivary Glands
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex Subcapsular Adenoma
- \* Bone Fibro-Osseous Lesion Mild
- \* Harderian Gland Adenoma
- \* Kidney Nephropathy Mild
- \* Larynx Metaplasia Squamous, Minimal
- \* Liver Lymphoma Malignant
- Lymph Node Iliac Angiectasis Moderate
- Renal Angiectasis Moderate
- [ Angiectasis TGLs = 1-12 ]
- [ Angiectasis TGLs = 2-13 ]
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Angiectasis Moderate
- [ Angiectasis TGLs = 3-7 ]
- \* Nose Accumulation, Hyaline Droplet Mild
- Respirat Epith Hyperplasia Minimal
- Pituitary Gland Pars Distalis Hyperplasia Mild
- \* Spleen Lymphoma Malignant
- \* Thymus Lymphoma Malignant
- \* Uterus Endometrium Hyperplasia Cystic, Mild
- Polyp Stromal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 326

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57595

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Urinary Bladder
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- |                   |                            |                               |                  |
|-------------------|----------------------------|-------------------------------|------------------|
| * Bone            |                            | Fibro-Osseous Lesion          | Minimal          |
| * Kidney          |                            | Nephropathy                   | Minimal          |
| * Larynx          |                            | Metaplasia                    | Squamous, Mild   |
| * Nose            |                            | Accumulation, Hyaline Droplet | Minimal          |
|                   | Respirat Epith             | Hyperplasia                   | Mild             |
| * Ovary           |                            | Hemorrhage                    | Minimal          |
| * Pituitary Gland | Pars Distalis              | Cyst                          | Mild             |
|                   | [ Cyst TGLs = 1-9 ]        |                               |                  |
| * Uterus          | Endometrium                | Hyperplasia                   | Cystic, Moderate |
|                   | [ Hyperplasia TGLs = 2-9 ] |                               |                  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 327

TRT#: 4

SEX: Female

DAY ON TEST: 583

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57596

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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, Mediastinal  | * Lymph Node, Mesenteric  | * Mammary Gland             | * Pancreas               |
| * Pituitary Gland          | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Trachea                   | * Urinary Bladder        |
| * Uterus                   |                           |                             |                          |

MISSING

- |                         |                     |                 |
|-------------------------|---------------------|-----------------|
| * Lymph Node, Bronchial | * Parathyroid Gland | * Thyroid Gland |
|-------------------------|---------------------|-----------------|

OBSERVATIONS

- |           |   |                                  |                   |
|-----------|---|----------------------------------|-------------------|
| * Kidney  |   | Nephropathy                      | Mild              |
| * Larynx  |   | Metaplasia                       | Squamous, Minimal |
| * Liver   |   | Hepatocellular Adenoma           | Multiple          |
|           | [ Hepatocellular Adenoma TGLs = 3-5, 4-12 ]     |                                  |                   |
| Mesentery | Fat   | Necrosis                         | Minimal           |
|           | [ Necrosis TGLs = 1-6 ]                         |                                  |                   |
| * Nose    |   | Accumulation, Hyaline Droplet    | Mild              |
|           | Respirat Epith                                  | Hyperplasia                      | Minimal           |
|           | Glands, Olfactory Epi                           | Hyperplasia                      | Minimal           |
| * Ovary   |   | Cyst                             | Mild              |
| * Spleen  |   | Hematopoietic Cell Proliferation | Minimal           |
|           | [ Hematopoietic Cell Proliferation TGLs = 2-5 ] |                                  |                   |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 328

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57597

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Stomach, Glandular
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Pituitary Gland
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Thyroid Gland

MISSING

- \* Lymph Node, Mandibular
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 3-12 ]
- [ Hepatocellular Carcinoma TGLs = 2-6 ]
- \* Lung
- Mesentery
- \* Nose
- \* Ovary
- \* Pancreas
- \* Skin
- \* Spleen
- [ Lymphoma Malignant TGLs = 1-5 ]
- \* Urinary Bladder
- \* Uterus
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Lymphoma Malignant
- Hepatocellular Carcinoma
- Lymphoma Malignant
- Lymphoma Malignant
- Accumulation, Hyaline Droplet
- Respirat Epith
- Hyperplasia
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Hyperplasia
- Mild
- Mild
- Metastatic (Liver)
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 329

TRT#: 4

SEX: Female

DAY ON TEST: 655

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57598

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Mammary Gland
- \* Salivary Glands
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Pancreas
- \* Skin
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Uterus
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pituitary Gland
- \* Stomach, Glandular

OBSERVATIONS

- \* Adrenal Cortex Lymphoma Malignant
- \* Adrenal Medulla Lymphoma Malignant
- \* Kidney Lymphoma Malignant TGLs = 6-12, 7-6 ]
- \* Larynx Metaplasia Squamous, Minimal
- \* Liver Hyperplasia Minimal
- [ Lymphoma Malignant TGLs = 4-5 ]
- \* Lung Lymphoma Malignant
- Lymph Node Renal Lymphoma Malignant
- Lymph Node Lumbar Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 8-15 ]
- [ Lymphoma Malignant TGLs = 9-16 ]
- \* Lymph Node, Bronchial Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 2-4 ]
- \* Lymph Node, Mandibular Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 11-14 ]
- \* Lymph Node, Mediastinal Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 1-3 ]
- \* Lymph Node, Mesenteric Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 5-13 ]
- Mesentery Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 329

TRT#: 4

SEX: Female

DAY ON TEST: 655

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57598

ORGAN AND ACCOUNTABLE SITE STATUS

* Nose		Accumulation, Hyaline Droplet	Minimal
	Respirat Epith	Hyperplasia	Minimal
* Ovary		Cyst	Minimal
		Lymphoma Malignant	
	[ Cyst TGLs = 10-8 ]		
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 3-5 ]		
* Thymus		Lymphoma Malignant	
* Trachea		Metaplasia	Squamous, Minimal

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 330

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57599

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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           | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                           |  |                               |                     |
|---------------------------|--|-------------------------------|---------------------|
| * Kidney                  |  | Nephropathy                   | Mild                |
| * Larynx                  |  | Metaplasia                    | Squamous, Minimal   |
| * Liver                   |  | Basophilic Focus              |                     |
|                           |  | Hepatocellular Adenoma        |                     |
|                           |  | Infiltration Cellular         | Lymphocyte, Minimal |
|                           |  | Tension Lipidosis             | Minimal             |
|                           | [ Hepatocellular Adenoma TGLs = 1-12 ] |                               |                     |
|                           | [ Infiltration Cellular TGLs = 2-6 ]   |                               |                     |
| * Lymph Node, Mediastinal |  | Lymphoma Malignant            |                     |
| * Nose                    |  | Accumulation, Hyaline Droplet | Mild                |
|                           | Respirat Epith                         | Hyperplasia                   | Mild                |
| * Ovary                   |  | Lymphoma Malignant            |                     |
| * Pancreas                |  | Lymphoma Malignant            |                     |
| * Pituitary Gland         | Pars Distalis                          | Hyperplasia                   | Minimal             |
| * Spleen                  |  | Lymphoma Malignant            |                     |
|                           | [ Lymphoma Malignant TGLs = 3-5 ]      |                               |                     |
| * Uterus                  | Endometrium                            | Hyperplasia                   | Cystic, Minimal     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 331

TRT#: 4

SEX: Female

DAY ON TEST: 701

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57600

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Mammary Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Mediastinal
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Nose
- \* Ovary
- \* Skin
- \* Uterus
- Nephropathy
- Metaplasia
- Accumulation, Hyaline Droplet
- Atrophy
- Hyperplasia
- Hemorrhage
- Sarcoma
- Inflammation
- Mild
- Squamous, Minimal
- Mild
- Minimal
- Mild
- Minimal
- Chronic Active, Mild

[ Sarcoma TGLs = 1-12 ]

PRIMARY CAUSE OF DEATH - Skin Sarcoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 332

TRT#: 4

SEX: Female

DAY ON TEST: 598

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57601

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thyroid Gland
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Trachea
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Urinary Bladder

MISSING

- \* Clitoral Gland
- \* Lymph Node, Mandibular
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex  
Note: actually a cortical cyst but diagnosis not available  
Degeneration Cystic, Mild
- \* Bone  
Fibro-Osseous Lesion Minimal
- \* Kidney  
Nephropathy Mild
- \* Larynx  
Metaplasia Squamous, Minimal
- \* Liver  
Hepatocellular Adenoma TGLs = 1-12, 2-5 ] Multiple
- \* Lung  
Mesentery Perivascular Fat Inflammation Chronic Active, Mild  
Necrosis Mild  
[ Necrosis TGLs = 3-13 ]
- \* Uterus  
Dilatation Mild

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 333

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57602

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                   |
| * Lymph Node, Bronchial    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         | * Uterus                    |                          |

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- |                   |                                   |                               |                |
|-------------------|-----------------------------------|-------------------------------|----------------|
| * Kidney          |                                   | Nephropathy                   | Mild           |
| * Larynx          |                                   | Metaplasia                    | Squamous, Mild |
| Mesentery         |                                   | Hemangioma                    |                |
|                   | [ Hemangioma TGLs = 2-12 ]        |                               |                |
| * Nose            |                                   | Accumulation, Hyaline Droplet | Mild           |
|                   | Respirat Epith                    | Hyperplasia                   | Mild           |
| * Pituitary Gland | Pars Distalis                     | Hyperplasia                   | Minimal        |
| * Spleen          |                                   | Lymphoma Malignant            |                |
|                   | [ Lymphoma Malignant TGLs = 1-5 ] |                               |                |
| * Thymus          |                                   | Lymphoma Malignant            |                |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 334

TRT#: 4

SEX: Female

DAY ON TEST: 508

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57603

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Esophagus
- \* Eye
- \* 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
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Clitoral Gland
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Gallbladder Epithelium Hyperplasia Mild
- \* Heart Histiocytic Sarcoma
- \* Kidney Accumulation, Hyaline Droplet Mild
- Nephropathy Minimal
- \* Larynx Metaplasia Squamous, Minimal
- \* Liver Histiocytic Sarcoma
- [ Histiocytic Sarcoma TGLs = 4-5; 5-5+13; 6-14; 7-6; 8-12; 9-5+6+12+13+14 ]
- \* Lung Histiocytic Sarcoma
- Metaplasia Osseous, Minimal
- \* Lymph Node, Mediastinal Hematopoietic Cell Proliferation Minimal
- \* Lymph Node, Mesenteric Hematopoietic Cell Proliferation Minimal
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Minimal
- Glands, Olfactory Epi Hyperplasia Mild
- \* Spleen Histiocytic Sarcoma
- Tissue NOS Mediastinum Carcinoma
- Note: carcinoma in mediastinum (slide 3) with ciliated and nonciliated epithelium of uncertain origin - possibly a thyroglossal carcinoma - no code
- \* Uterus Histiocytic Sarcoma

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 334

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 508

**DOSE:** 10 mg/m3

**DISP:** Natural Death

**HISTO:** 57603

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Histiocytic Sarcoma TGLs = 3-9 ]

**PRIMARY CAUSE OF DEATH**

- Liver Histiocytic Sarcoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 335

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57604

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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, Mediastinal   | * Lymph Node, Mesenteric | * Mammary Gland            | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          | * Uterus                  |

MISSING

- |                         |                          |
|-------------------------|--------------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular |
|-------------------------|--------------------------|

OBSERVATIONS

- |                   |  |                               |                    |
|-------------------|--|-------------------------------|--------------------|
| * Bone            |  | Fibro-Osseous Lesion          | Mild               |
| * Harderian Gland |  | Adenoma                       |                    |
|                   | [ Adenoma TGLs = 1-11 ]                  |                               |                    |
| * Kidney          |  | Nephropathy                   | Mild               |
| * Larynx          | Epiglottis                               | Fibrosis                      | Minimal            |
|                   |  | Metaplasia                    | Squamous, Minimal  |
| * Liver           |  | Hepatocellular Adenoma        |                    |
|                   | [ Hepatocellular Carcinoma TGLs = 3-12 ] | Hepatocellular Carcinoma      |                    |
| * Lung            |  | Hepatocellular Carcinoma      | Metastatic (Liver) |
| Mesentery         | Fat                                      | Necrosis                      | Mild               |
|                   | [ Necrosis TGLs = 2-13 ]                 |                               |                    |
| * Nose            |  | Accumulation, Hyaline Droplet | Mild               |
|                   | Respirat Epith                           | Hyperplasia                   | Mild               |
| * Pituitary Gland | Pars Distalis                            | Hyperplasia                   | Mild               |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 336

TRT#: 4

SEX: Female

DAY ON TEST: 634

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57605

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                   |
| * Lymph Node, Bronchial    | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        |
| Skeletal Muscle            | * Skin                    | Spinal Cord                 | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

- \* Lymph Node, Mediastinal

OBSERVATIONS

- |                           |                |                               |                      |
|---------------------------|----------------|-------------------------------|----------------------|
| * Kidney                  |                | Nephropathy                   | Minimal              |
| * Larynx                  |                | Metaplasia                    | Squamous, Minimal    |
| Mesentery                 | Fat            | Necrosis                      | Mild                 |
| [ Necrosis TGLs = 1-6 ]   |                |                               |                      |
| * Nose                    |                | Accumulation, Hyaline Droplet | Minimal              |
|                           | Respirat Epith | Hyperplasia                   | Minimal              |
| * Ovary                   |                | Cyst                          | Mild                 |
|                           |                | Inflammation                  | Chronic Active, Mild |
| Peripheral Nerve          |                | Degeneration                  | Mild                 |
|                           |                | Infiltration Cellular         | Polymorphnuclr, Mild |
| * Thyroid Gland           | C Cell         | Hyperplasia                   | Mild                 |
| * Uterus                  |                | Dilatation                    | Moderate             |
|                           |                | Inflammation                  | Chronic Active, Mild |
| [ Dilatation TGLs = 2-9 ] |                |                               |                      |

PRIMARY CAUSE OF DEATH - Peripheral Nerve Degeneration

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 337

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57606

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Mammary Gland
- \* Skin
- \* Thyroid Gland
- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Salivary Glands
- \* Thymus

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Intestine Small, Ileum Carcinoma
- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- \* Liver Metaplasia Squamous, Minimal
- Basophilic Focus Basophilic Focus TGLs = 2-12 ]
- Hepatocellular Adenoma Hepatocellular Adenoma TGLs = 3-6, 4-5 ]
- \* Lung Alveolar/Bronchiolar Adenoma
- Lymph Node Renal Lymphoma Malignant
- Lumbar Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 6-14, 9-16 ]
- [ Lymphoma Malignant TGLs = 8-15 ]
- \* Lymph Node, Mandibular Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- Mesentery Fat Necrosis Mild
- [ Necrosis TGLs = 1-13 ]
- \* Nose Accumulation, Hyaline Droplet Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 337

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57606

ORGAN AND ACCOUNTABLE SITE STATUS

* Ovary	Respirat Epith	Hyperplasia	Mild
		Cyst	Mild
		Hemorrhage	Minimal
		Lymphoma Malignant	
[ Cyst TGLs = 7-8 ]			
* Spleen		Lymphoma Malignant	
[ Lymphoma Malignant TGLs = 5-5 ]			
* Urinary Bladder		Lymphoma Malignant	
* Uterus	Endometrium	Hyperplasia	Cystic, Mild

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 338

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57607

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone Marrow             | * 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, Bronchial  | * Lymph Node, Mandibular   | * Lymph Node, Mediastinal | * Mammary Gland             |
| * Pancreas               | * Salivary Glands          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

OBSERVATIONS

- |                          |                            |                               |                      |
|--------------------------|----------------------------|-------------------------------|----------------------|
| * Bone                   |                            | Fibro-Osseous Lesion          | Minimal              |
| * Eye                    | Cornea                     | Inflammation                  | Chronic Active, Mild |
| * Harderian Gland        |                            | Adenoma                       |                      |
|                          | [ Adenoma TGLs = 1-11 ]    |                               |                      |
| * Kidney                 |                            | Lymphoma Malignant            |                      |
|                          |                            | Nephropathy                   | Mild                 |
| * Larynx                 |                            | Metaplasia                    | Squamous, Minimal    |
| * Liver                  |                            | Lymphoma Malignant            |                      |
| * Lymph Node, Mesenteric |                            | Hemorrhage                    | Mild                 |
|                          | [ Hemorrhage TGLs = 2-12 ] |                               |                      |
| Mesentery                |                            | Hemangioma                    |                      |
|                          | [ Hemangioma TGLs = 2-12 ] |                               |                      |
| * Nose                   |                            | Accumulation, Hyaline Droplet | Mild                 |
|                          | Respirat Epith             | Hyperplasia                   | Mild                 |
| * Ovary                  |                            | Hemorrhage                    | Minimal              |
| * Parathyroid Gland      |                            | Cyst                          | Minimal              |
| * Pituitary Gland        | Pars Distalis              | Hyperplasia                   | Mild                 |
| * Spleen                 |                            | Lymphoma Malignant            |                      |
| * Uterus                 | Endometrium                | Hyperplasia                   | Cystic, Mild         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 339

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57608

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Spleen
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Trachea

OBSERVATIONS

- \* Adrenal Cortex
  - \* Kidney
  - \* Larynx
  - \* Liver
  - \* Lung
    - [ Inflammation TGLs = 2-4, 3-4 ]
  - \* Nose
  - \* Ovary
    - [ Cyst TGLs = 4-8 ]
  - \* Pituitary Gland
    - [ Adenoma TGLs = 1-9 ]
  - \* Uterus
- |  |                |                               |                      |
|--|----------------|-------------------------------|----------------------|
|  | Perivascular   | Vacuolization Cytoplasmic     | Moderate             |
|  |                | Nephropathy                   | Mild                 |
|  |                | Metaplasia                    | Squamous, Minimal    |
|  |                | Tension Lipidosis             | Minimal              |
|  |                | Inflammation                  | Chronic Active, Mild |
|  | Respirat Epith | Accumulation, Hyaline Droplet | Moderate             |
|  |                | Hyperplasia                   | Minimal              |
|  |                | Cyst                          | Minimal              |
|  |                | Hemorrhage                    | Minimal              |
|  | Pars Distalis  | Adenoma                       |                      |
|  | Endometrium    | Hyperplasia                   | Cystic, Minimal      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 340

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57609

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Bronchial    |
| * 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        |                            |

MISSING

- \* Lymph Node, Mediastinal

OBSERVATIONS

- |          |                     |                               |                      |
|----------|---------------------|-------------------------------|----------------------|
| * Bone   |                     | Fibro-Osseous Lesion          | Minimal              |
| * Kidney |                     | Nephropathy                   | Mild                 |
| * Larynx |                     | Metaplasia                    | Squamous, Minimal    |
| * Nose   |                     | Accumulation, Hyaline Droplet | Mild                 |
|          | Respirat Epith      | Hyperplasia                   | Minimal              |
|          | Olfactory Epi       | Metaplasia                    | Respiratory, Minimal |
| * Ovary  |                     | Cyst                          | Moderate             |
|          |                     | Hemorrhage                    | Minimal              |
|          | [ Cyst TGLs = 1-8 ] |                               |                      |
| * Uterus | Endometrium         | Hyperplasia                   | Cystic, Mild         |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 341

TRT#: 4

SEX: Female

DAY ON TEST: 698

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57610

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Salivary Glands
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Skin
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

INSUFFICIENT TISSUE

- \* Larynx

OBSERVATIONS

- \* Kidney
  - Infarct
  - Nephropathy
- \* Liver
  - Centrilobular
  - Angiectasis
  - Degeneration
  - Eosinophilic Focus
  - Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 5-5 ]
  - Mild
- Lymph Node
  - Pancreatic
  - Renal
  - Lumbar
  - Lymphoma Malignant
  - Lymphoma Malignant
  - Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 6-6 ]
  - Mild
- [ Lymphoma Malignant TGLs = 10-12 ]
  - Minimal
- [ Lymphoma Malignant TGLs = 11-13 ]
  - Acute, Mild
- \* Lymph Node, Mandibular
  - Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 2-8 ]
  - Lymphoma Malignant
- \* Lymph Node, Mediastinal
  - Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 341

TRT#: 4

SEX: Female

DAY ON TEST: 698

DOSE: 10 mg/m3

DISP: Moribund Sacrifice

HISTO: 57610

ORGAN AND ACCOUNTABLE SITE STATUS

[ Lymphoma Malignant TGLs = 4-3 ]

\* Lymph Node, Mesenteric

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 12-7 ]

\* Nose

Accumulation, Hyaline Droplet

Mild

Respirat Epith

Hyperplasia

Mild

\* Ovary

Angiectasis

Mild

Hemorrhage

Mild

[ Hemorrhage TGLs = 9-8 ]

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 7-5 ]

\* Thymus

Lymphoma Malignant

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

PRIMARY CAUSE OF DEATH

- Spleen Lymphoma Malignant



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 342

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57611

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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                     | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          | * Ovary                    |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | * Uterus                   |

OBSERVATIONS

- |            |  |                               |                   |
|------------|--|-------------------------------|-------------------|
| * Bone     |  | Fibro-Osseous Lesion          | Minimal           |
| * Kidney   |  | Nephropathy                   | Minimal           |
| * Larynx   |  | Metaplasia                    | Squamous, Minimal |
| * Lung     | [ Alveolar/Bronchiolar Adenoma TGLs = 1-12 ] | Alveolar/Bronchiolar Adenoma  |                   |
| * Nose     | Respirat Epith                               | Accumulation, Hyaline Droplet | Mild              |
|            |  | Hyperplasia                   | Mild              |
| * Pancreas |  | Lipomatosis                   | Mild              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 343

TRT#: 4

SEX: Female

DAY ON TEST: 552

DOSE: 10 mg/m3

DISP: Natural Death

HISTO: 57612

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Urinary Bladder

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"> <li>* Bone</li> <li>* Kidney</li> <li>* Larynx</li> <li>* Liver</li> </ul>                                   | <ul style="list-style-type: none"> <li>Fibro-Osseous Lesion</li> <li>Nephropathy</li> <li>Metaplasia</li> <li>Fatty Change</li> <li>Hepatocellular Carcinoma</li> </ul> | <ul style="list-style-type: none"> <li>Minimal</li> <li>Moderate</li> <li>Squamous, Minimal</li> <li>Mild</li> </ul>  |
| [ Hepatocellular Carcinoma TGLs = 1-12 ]  |   |   |
| <ul style="list-style-type: none"> <li>* Lung</li> <li>* Lymph Node, Mesenteric</li> <li>* Nose</li> <li>* Trachea</li> <li>* Uterus</li> </ul> | <ul style="list-style-type: none"> <li>Bronchiole</li> <li>Respirat Epith</li> </ul>  | <ul style="list-style-type: none"> <li>Foreign Body</li> <li>Hyperplasia</li> <li>Hemorrhage</li> <li>Accumulation, Hyaline Droplet</li> <li>Hyperplasia</li> <li>Metaplasia</li> <li>Dilatation</li> </ul> |
|   |   | <ul style="list-style-type: none"> <li>Minimal</li> <li>Minimal</li> <li>Mild</li> <li>Mild</li> <li>Mild</li> <li>Squamous, Minimal</li> <li>Minimal</li> </ul>  |

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 344

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57613

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Thymus
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Kidney
- \* Mammary Gland
- \* Skin
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Islets, Pancreatic
- \* Larynx
- \* Liver
  - [ Hepatocellular Adenoma TGLs = 4-12 ]
- \* Lymph Node, Mesenteric
  - [ Lymphoma Malignant TGLs = 6-14 ]
- Mesentery
  - [ Necrosis TGLs = 1-13, 5-15 ]
- \* Nose
- \* Ovary
  - [ Angiectasis TGLs = 2-8 ]
  - [ Cyst TGLs = 3-8 ]
- \* Spleen
- \* Uterus
- Epiglottis
- Fat
- Respirat Epith
- Endometrium
- Adenoma
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Lymphoma Malignant
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Angiectasis
- Cyst
- Lymphoma Malignant
- Hyperplasia
- Minimal
- Squamous, Minimal
- Moderate
- Mild
- Mild
- Minimal
- Mild
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 345

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57614

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                     | * Lymph Node, Bronchial  |
| * Lymph Node, Mandibular   | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

OBSERVATIONS

- |                   |   |                               |                   |
|-------------------|---|-------------------------------|-------------------|
| * Kidney          |   | Nephropathy                   | Mild              |
| * Larynx          |   | Metaplasia                    | Squamous, Minimal |
| * Lung            |   | Alveolar/Bronchiolar Adenoma  |                   |
|                   | [ Alveolar/Bronchiolar Adenoma TGLs = 1-4 ] |                               |                   |
| * Nose            |   | Accumulation, Hyaline Droplet | Minimal           |
|                   | Respirat Epith                              | Hyperplasia                   | Mild              |
| * Pituitary Gland | Pars Distalis                               | Hyperplasia                   | Minimal           |
| * Uterus          | Endometrium                                 | Hyperplasia                   | Cystic, Mild      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 346

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57615

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Stomach, Glandular
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Kidney
- \* Lymph Node, Mesenteric
- \* Skin
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Mammary Gland
- \* Spleen
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Intestine Small, Ileum
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Adenoma TGLs = 3-12 ]
    - Mesentery
      - [ Necrosis TGLs = 4-13 ]
  - \* Nose
  - \* Ovary
  - \* Pituitary Gland
  - Urethra
  - \* Uterus
    - [ Angiectasis TGLs = 2-9 ]
- Epiglottis
- Pars Distalis
- Endometrium
- Adenoma
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Necrosis
- Accumulation, Hyaline Droplet
- Cystadenoma
- Adenoma
- Sarcoma
- Angiectasis
- Hyperplasia
- Minimal
- Squamous, Mild
- Minimal
- Minimal
- Minimal
- Minimal
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 347

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57616

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Bronchial    |
| * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Pancreas                | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |          |                           |                               |                  |
|----------|---------------------------|-------------------------------|------------------|
| * Bone   |                           | Fibro-Osseous Lesion          | Minimal          |
| * Kidney |                           | Nephropathy                   | Minimal          |
| * Larynx |                           | Metaplasia                    | Squamous, Mild   |
| * Nose   |                           | Accumulation, Hyaline Droplet | Mild             |
|          | Respirat Epith            | Hyperplasia                   | Mild             |
| * Ovary  |                           | Hemorrhage                    | Mild             |
|          | [ Hemorrhage TGLs = 1-8 ] |                               |                  |
| * Uterus | Endometrium               | Hyperplasia                   | Cystic, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 348

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57617

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * 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, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          | * Ovary                    |
| * Pancreas                | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        | * Uterus                   |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                  |                |                               |                   |
|------------------|----------------|-------------------------------|-------------------|
| * Adrenal Cortex | Subcapsular    | Adenoma                       | Moderate          |
|                  |                | Hyperplasia                   | Minimal           |
| * Kidney         |                | Nephropathy                   | Minimal           |
| * Larynx         | Epiglottis     | Fibrosis                      | Squamous, Minimal |
|                  |                | Metaplasia                    |                   |
| * Liver          |                | Basophilic Focus              |                   |
| * Nose           |                | Accumulation, Hyaline Droplet | Mild              |
|                  | Respirat Epith | Hyperplasia                   | Mild              |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 349

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57618

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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, Bronchial  |
| * Lymph Node, Mandibular   | * Lymph Node, Mediastinal | * 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          | * Uterus                  |                             |                          |

OBSERVATIONS

- |           |   |                               |                |
|-----------|---|-------------------------------|----------------|
| * Kidney  |   | Nephropathy                   | Mild           |
| * Larynx  |   | Metaplasia                    | Squamous, Mild |
| * Liver   |   | Hepatocellular Adenoma        |                |
|           |   | Hepatocellular Carcinoma      |                |
|           | [ Hepatocellular Adenoma TGLs = 3-12 ]  |                               |                |
|           | [ Hepatocellular Carcinoma TGLs = 2-6 ] |                               |                |
| Mesentery | Fat                                     | Necrosis                      | Minimal        |
|           | [ Necrosis TGLs = 1-13 ]                |                               |                |
| * Nose    |   | Accumulation, Hyaline Droplet | Mild           |
|           | Respirat Epith                          | Hyperplasia                   | Mild           |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 350

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 10 mg/m3

DISP: Terminal Sacrifice

HISTO: 57619

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Mild
- \* Larynx Metaplasia Squamous, Minimal
- \* Liver Hepatocellular Adenoma TGLs = 1-5 ]
- \* Lung Lymphoma Malignant
- Lymph Node Lumbar Infiltration Cellular Histiocyte, Mild
- [ Infiltration Cellular TGLs = 3-12 ]
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Nose Accumulation, Hyaline Droplet Mild
- Respirat Epith Hyperplasia Minimal
- \* Pituitary Gland Pars Distalis Hyperplasia Moderate
- \* Spleen Lymphoma Malignant
- \* Thymus Lymphoma Malignant
- \* Thyroid Gland Follicular Cel Hyperplasia Moderate
- \* Uterus Endometrium Hyperplasia Cystic, Mild
- [ Hyperplasia TGLs = 2-9 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 501

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57470

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                            |                          |                           |
|-----------------------------|----------------------------|--------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla          | * Bone                   | * Bone Marrow             |
| * Brain                     | * Clitoral Gland           | * Esophagus              | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Jejunum | * Islets, Pancreatic     | * Lymph Node, Bronchial   |
| * Lymph Node, Mandibular    | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric | * Mammary Gland           |
| * Pancreas                  | * Salivary Glands          | * Skin                   | * Stomach, Forestomach    |
| * Thymus                    | * Thyroid Gland            | * Trachea                | * Urinary Bladder         |

MISSING

- |               |                     |
|---------------|---------------------|
| * Gallbladder | * Parathyroid Gland |
|---------------|---------------------|

OBSERVATIONS

- |                          |  |                               |                |
|--------------------------|--|-------------------------------|----------------|
| * Heart                  |  | Cardiomyopathy                | Mild           |
| * Intestine Small, Ileum |  | Adenoma                       |                |
| * Kidney                 |  | Infarct                       | Mild           |
|                          |  | Nephropathy                   | Mild           |
| * Larynx                 | Epiglottis                                   | Fibrosis                      | Minimal        |
|                          |  | Metaplasia                    | Squamous, Mild |
| * Liver                  |  | Hepatocellular Adenoma        | Multiple       |
|                          |  | Lymphoma Malignant            |                |
|                          | [ Hepatocellular Adenoma TGLs = 1-13, 2-12 ] |                               |                |
| * Lung                   | Bronchiole                                   | Hyperplasia                   | Minimal        |
|                          | Lumbar                                       | Ectasia                       | Marked         |
|                          | [ Ectasia TGLs = 5-14 ]                      |                               |                |
| * Nose                   |  | Accumulation, Hyaline Droplet | Mild           |
|                          | Respirat Epith                               | Hyperplasia                   | Mild           |
| * Ovary                  |  | Cyst                          | Moderate       |
|                          | [ Cyst TGLs = 3-8 ]                          |                               |                |
| * Pituitary Gland        | Pars Distalis                                | Hyperplasia                   | Mild           |
| * Spleen                 |  | Lymphoma Malignant            |                |
| * Stomach, Glandular     | Glands                                       | Mineralization                | Minimal        |
| * Uterus                 |  | Angiectasis                   | Moderate       |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 501

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57470

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Angiectasis TGLs = 4-9 ]

Endometrium

Hyperplasia

Cystic, Mild

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 502

TRT#: 6

SEX: Female

DAY ON TEST: 576

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57471

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Mammary Gland
- \* Salivary Glands
- \* Thymus
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Spleen
- \* Thyroid Gland
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mediastinal
- \* Ovary

OBSERVATIONS

- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- \* Liver Eosinophilic Focus Hepatocellular Adenoma Multiple
- [ Hepatocellular Adenoma TGLs = 4-12, 5-13, 6-5 ]
- Lymph Node Renal Necrosis Mild
- [ Necrosis TGLs = 7-15 ]
- \* Lymph Node, Bronchial Necrosis Moderate
- \* Lymph Node, Mandibular Necrosis Mild
- Mesentery Hemangiosarcoma Inflammation Suppurative, Moderate
- Note: suppurative inflammation in mesentery around oviduct
- [ Hemangiosarcoma TGLs = 1-14 ]
- \* Nose Accumulation, Hyaline Droplet Moderate
- \* Skin Inflammation Chronic Active, Mild
- \* Uterus Dilatation Marked
- [ Polyp Stromal TGLs = 2-9 ]

PRIMARY CAUSE OF DEATH - Mesentery Hemangiosarcoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 503

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57472

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone Marrow             | * 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      | * Liver                     |
| * Mammary Gland          | * Ovary                    | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thyroid Gland           | * Trachea                   |

MISSING

- |               |                     |
|---------------|---------------------|
| * Gallbladder | * Parathyroid Gland |
|---------------|---------------------|

OBSERVATIONS

- |                           |                      |                               |                         |
|---------------------------|----------------------|-------------------------------|-------------------------|
| * Bone                    |                      | Fibro-Osseous Lesion          | Mild                    |
| * Harderian Gland         |                      | Inflammation                  | Chronic Active, Minimal |
| * Kidney                  |                      | Nephropathy                   | Moderate                |
| * Larynx                  |                      | Metaplasia                    | Squamous, Mild          |
| * Lung                    | Bronchiole           | Hyperplasia                   | Minimal                 |
| Lymph Node                | Renal                | Lymphoma Malignant            |                         |
|                           | Lumbar               | Lymphoma Malignant            |                         |
|                           | Pancreatic           | Lymphoma Malignant            |                         |
|                           | [ Lymphoma Malignant |                               | TGLs = 4-12 ]           |
|                           | [ Lymphoma Malignant |                               | TGLs = 5-13 ]           |
|                           | [ Lymphoma Malignant |                               | TGLs = 2-5 ]            |
| * Lymph Node, Bronchial   |                      | Lymphoma Malignant            |                         |
|                           | [ Lymphoma Malignant |                               | TGLs = 7-4 ]            |
| * Lymph Node, Mandibular  |                      | Lymphoma Malignant            |                         |
| * Lymph Node, Mediastinal |                      | Lymphoma Malignant            |                         |
|                           | [ Lymphoma Malignant |                               | TGLs = 6-3 ]            |
| * Lymph Node, Mesenteric  |                      | Lymphoma Malignant            |                         |
|                           | [ Lymphoma Malignant |                               | TGLs = 8-7 ]            |
| * Nose                    |                      | Accumulation, Hyaline Droplet | Mild                    |
|                           |                      | Necrosis                      | Minimal                 |
| * Pancreas                |                      | Lymphoma Malignant            |                         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 503

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57472

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ORGAN AND ACCOUNTABLE SITE STATUS

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* Pituitary Gland [ Adenoma TGLs = 1-9 ]	Pars Distalis	Adenoma	
* Spleen		Lymphoma Malignant	
* Thymus		Lymphoma Malignant	
* Urinary Bladder		Lymphoma Malignant	
* Uterus [ Hyperplasia TGLs = 3-9 ]	Endometrium	Hyperplasia	Cystic, Marked

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 504

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57473

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * 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, Bronchial     |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Mammary Gland             |
| * Ovary                  | * Pancreas                 | * Salivary Glands         | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- |               |                     |
|---------------|---------------------|
| * Gallbladder | * Parathyroid Gland |
|---------------|---------------------|

OBSERVATIONS

- |                   |                                       |                               |                |
|-------------------|---------------------------------------|-------------------------------|----------------|
| * Adrenal Cortex  |                                       | Hyperplasia                   | Minimal        |
| * Bone            |                                       | Fibro-Osseous Lesion          | Mild           |
| * Kidney          |                                       | Nephropathy                   | Minimal        |
| * Larynx          |                                       | Metaplasia                    | Squamous, Mild |
| * Liver           |                                       | Hepatocellular Adenoma        |                |
|                   | [ Hepatocellular Adenoma TGLs = 1-6 ] |                               |                |
| * Lung            | Bronchiole                            | Hyperplasia                   | Minimal        |
| * Nose            |                                       | Accumulation, Hyaline Droplet | Moderate       |
|                   | Respirat Epith                        | Hyperplasia                   | Minimal        |
| * Pituitary Gland | Pars Distalis                         | Hyperplasia                   | Minimal        |
| * Skin            | Subcut Tiss                           | Fibrosis                      | Minimal        |
| * Uterus          | Endometrium                           | Hyperplasia                   | Cystic, Mild   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 505

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57474

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Bronchial  | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Pancreas                  | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- |                          |                           |                     |
|--------------------------|---------------------------|---------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Parathyroid Gland |
|--------------------------|---------------------------|---------------------|

OBSERVATIONS

- |                             |               |                               |                        |
|-----------------------------|---------------|-------------------------------|------------------------|
| * Bone                      |               | Fibro-Osseous Lesion          | Mild                   |
| * Kidney                    |               | Nephropathy                   | Mild                   |
| * Larynx                    |               | Metaplasia                    | Squamous, Mild         |
| * Liver                     |               | Inflammation                  | Chronic Active, Mild   |
| [ Inflammation TGLs = 3-6 ] |               |                               |                        |
| Mesentery                   | Fat           | Necrosis                      | Mild                   |
| [ Necrosis TGLs = 1-12 ]    |               |                               |                        |
| * Nose                      |               | Accumulation, Hyaline Droplet | Mild                   |
| * Ovary                     |               | Inflammation                  | Chronic Active, Marked |
| [ Inflammation TGLs = 2-8 ] |               |                               |                        |
| * Pituitary Gland           | Pars Distalis | Adenoma                       |                        |
| [ Adenoma TGLs = 4-9 ]      |               |                               |                        |
| * Uterus                    | Endometrium   | Hyperplasia                   | Cystic, Mild           |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 506

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57475

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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                     | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           |
| * Pancreas                  | * Pituitary Gland        | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           |
| * Trachea                   |                          |                            |                           |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                           |                                     |                               |                        |
|---------------------------|-------------------------------------|-------------------------------|------------------------|
| * Adrenal Cortex          |                                     | Hyperplasia                   | Mild                   |
| * Bone                    |                                     | Fibro-Osseous Lesion          | Mild                   |
| * Kidney                  |                                     | Nephropathy                   | Mild                   |
| * Larynx                  | Epiglottis                          | Fibrosis                      | Minimal                |
|                           |                                     | Metaplasia                    | Squamous, Mild         |
| * Lung                    | Bronchiole                          | Hyperplasia                   | Minimal                |
| Lymph Node                | Iliac                               | Lymphoma Malignant            |                        |
|                           | [ Lymphoma Malignant TGLs = 3-12 ]  |                               |                        |
| * Lymph Node, Bronchial   |                                     | Lymphoma Malignant            |                        |
| * Lymph Node, Mediastinal |                                     | Lymphoma Malignant            |                        |
| * Nose                    |                                     | Accumulation, Hyaline Droplet | Moderate               |
|                           | Respirat Epith                      | Hyperplasia                   | Mild                   |
| * Ovary                   |                                     | Inflammation                  | Chronic Active, Marked |
|                           | [ Inflammation TGLs = 1-8 ]         |                               |                        |
| * Spleen                  |                                     | Lymphoma Malignant            |                        |
|                           | [ Lymphoma Malignant TGLs = 2-5+6 ] |                               |                        |
| * Urinary Bladder         |                                     | Angiectasis                   | Mild                   |
| * Uterus                  | Endometrium                         | Hyperplasia                   | Cystic, Moderate       |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 507

TRT#: 6

SEX: Female

DAY ON TEST: 460

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57476

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Clitoral Gland
- \* Lymph Node, Bronchial
- \* Lymph Node, Mesenteric
- \* Thymus

OBSERVATIONS

- \* Bone Marrow
- \* Heart
- \* Kidney
- \* Larynx
- \* Liver
- [ Lymphoma Malignant TGLs = 3-5 ]
- \* Lung
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ]
- Mesentery
- \* Nose
- Respirat Epith
- \* Ovary
- \* Spleen
- [ Lymphoma Malignant TGLs = 2-5 ]
- \* Uterus
- [ Dilatation TGLs = 4-9 ]

Lymphoma Malignant  
 Lymphoma Malignant  
 Mineralization  
 Nephropathy  
 Metaplasia  
 Lymphoma Malignant  
 Alveolar/Bronchiolar Carcinoma  
 Lymphoma Malignant  
 Lymphoma Malignant  
 Accumulation, Hyaline Droplet  
 Hyperplasia  
 Lymphoma Malignant  
 Lymphoma Malignant  
 Dilatation  
 Lymphoma Malignant

Minimal  
 Mild  
 Squamous, Mild  
 Moderate  
 Mild  
 Marked

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 508

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57477

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Skin
- \* Thymus
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Medulla Pheochromocytoma Benign
- \* Bone Fibro-Osseous Lesion Minimal
- \* Heart Cardiomyopathy Mild
- \* Kidney Nephropathy Mild
- \* Larynx Epiglottis Fibrosis Minimal
- \* Liver Metaplasia Squamous, Mild
- [ Hepatocellular Adenoma TGLs = 4-5, 5-13 ] Hepatocellular Adenoma Multiple
- \* Lung Alveolar/Bronchiolar Carcinoma
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-4 ]
- Lymph Node Iliac Lymphoma Malignant
- Renal Lymphoma Malignant
- Deep Cervical Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 7-6 ]
- [ Lymphoma Malignant TGLs = 8-13 ]
- [ Lymphoma Malignant TGLs = 9-12 ]
- \* Lymph Node, Bronchial Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 10-7 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 508

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57477

ORGAN AND ACCOUNTABLE SITE STATUS

Mesentery [ Necrosis TGLs = 2-14 ]	Fat	Necrosis	Minimal
* Nose		Accumulation, Hyaline Droplet	Mild
	Respirat Epith	Hyperplasia	Minimal
	Glands, Olfactory Epi	Hyperplasia	Minimal
* Ovary [ Cyst TGLs = 3-8 ]		Cyst	Minimal
* Pancreas	Acinus	Hypertrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Uterus	Endometrium	Hyperplasia	Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 509

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57478

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                           |                            |                           |
|-----------------------------|---------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla         | * 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 | * Liver                   |
| * Lymph Node, Mandibular    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Mammary Gland           |
| * Ovary                     | * Pancreas                | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach    | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                 | * Urinary Bladder          | * Uterus                  |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                         |                |                               |                      |
|-------------------------|----------------|-------------------------------|----------------------|
| * Bone                  |                | Fibro-Osseous Lesion          | Mild                 |
| * Heart                 |                | Cardiomyopathy                | Mild                 |
| * Islets, Pancreatic    |                | Adenoma                       |                      |
| * Kidney                |                | Nephropathy                   | Minimal              |
| * Larynx                |                | Metaplasia                    | Squamous, Mild       |
| * Lung                  | Alveolar Epith | Hyperplasia                   | Minimal              |
| Mesentery               | Fat            | Necrosis                      | Mild                 |
| [ Necrosis TGLs = 1-6 ] |                |                               |                      |
| * Nose                  |                | Accumulation, Hyaline Droplet | Moderate             |
|                         | Respirat Epith | Hyperplasia                   | Mild                 |
|                         |                | Inflammation                  | Chronic Active, Mild |
| * Pituitary Gland       | Pars Distalis  | Hyperplasia                   | Minimal              |
| * Spleen                |                | Lymphoma Malignant            |                      |

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 510

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57479

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Heart Cardiomyopathy Mild
- \* Kidney Nephropathy Mild
- [ Nephropathy TGLs = 3-6 ]
- \* Larynx Metaplasia Squamous, Mild
- \* Liver Sarcoma Metastatic (Uterus)
- \* Lung Bronchiole Hyperplasia Minimal
- \* Lymph Node, Mesenteric Hyperplasia Lymphoid, Mild
- Mesentery Inflammation Chronic Active, Mild
- Note: mesothelial hyperplasia near pancreas and ileum
- \* Nose Accumulation, Hyaline Droplet Mild
- \* Ovary Sarcoma Metastatic (Uterus)
- \* Spleen Hematopoietic Cell Proliferation Mild
- [ Hematopoietic Cell Proliferation TGLs = 1-5 ]
- \* Uterus Dilatation Marked
- Sarcoma
- [ Dilatation TGLs = 5-9, 6-9 ]
- [ Sarcoma TGLs = 4-13 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 511

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57480

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * 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             | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- \* Lymph Node, Mediastinal

OBSERVATIONS

- |                          |  |                               |                |
|--------------------------|--|-------------------------------|----------------|
| * Harderian Gland        |  | Hyperplasia                   | Mild           |
| * Heart                  |  | Cardiomyopathy                | Mild           |
| * Kidney                 |  | Nephropathy                   | Minimal        |
| * Larynx                 | Epiglottis                               | Fibrosis                      | Minimal        |
|                          |  | Metaplasia                    | Squamous, Mild |
| * Liver                  |  | Hepatocellular Carcinoma      |                |
|                          | [ Hepatocellular Carcinoma TGLs = 2-12 ] |                               |                |
| * Lung                   | Alveolar Epith                           | Hyperplasia                   | Mild           |
| Lymph Node               | Lumbar                                   | Lymphoma Malignant            |                |
|                          | Renal                                    | Lymphoma Malignant            |                |
|                          | [ Lymphoma Malignant TGLs = 4-13 ]       |                               |                |
|                          | [ Lymphoma Malignant TGLs = 5-14 ]       |                               |                |
| * Lymph Node, Bronchial  |  | Lymphoma Malignant            |                |
| * Lymph Node, Mandibular |  | Lymphoma Malignant            |                |
| * Lymph Node, Mesenteric |  | Lymphoma Malignant            |                |
|                          | [ Lymphoma Malignant TGLs = 6-7 ]        |                               |                |
| Mesentery                |  | Lymphoma Malignant            |                |
| * Nose                   |  | Accumulation, Hyaline Droplet | Moderate       |
| * Ovary                  |  | Cyst                          | Minimal        |
|                          | [ Cyst TGLs = 3-8 ]                      |                               |                |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 511

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57480

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 1-5 ]

\* Uterus

Lymphoma Malignant

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 512

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57481

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Spleen
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Stomach, Forestomach
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Skin
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Nose
- \* Pituitary Gland
- \* Thyroid Gland
- \* Uterus
- Hyperplasia
- Hyperplasia
- Nephropathy
- Metaplasia
- Tension Lipidosis
- Hemorrhage
- Alveolar Epith
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Polyp Stromal
- Minimal
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Minimal
- Minimal
- Mild
- Minimal
- Mild
- Mild

[ Polyp Stromal TGLs = 1-9 ]

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 513

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57482

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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                     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Salivary Glands           | * Skin                   | * Spleen                   |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |               |                               |                |
|-------------------|---------------|-------------------------------|----------------|
| * Bone            |               | Fibro-Osseous Lesion          | Mild           |
| * Kidney          |               | Nephropathy                   | Mild           |
| * Larynx          | Epiglottis    | Fibrosis                      | Minimal        |
|                   |               | Metaplasia                    | Squamous, Mild |
| * Lung            | Bronchiole    | Hyperplasia                   | Minimal        |
| * Nose            |               | Accumulation, Hyaline Droplet | Minimal        |
| * Pituitary Gland | Pars Distalis | Hyperplasia                   | Mild           |
| * Uterus          | Endometrium   | Hyperplasia                   | Cystic, Mild   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 514

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57483

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Skin
- \* Thymus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                  |  |                                |                  |
|------------------|--|--------------------------------|------------------|
| * Adrenal Cortex |  | Hyperplasia                    | Minimal          |
| * Bone           |  | Fibro-Osseous Lesion           | Minimal          |
| * Kidney         |  | Metaplasia                     | Osseous, Minimal |
|                  |  | Nephropathy                    | Minimal          |
| * Larynx         |  | Metaplasia                     | Squamous, Mild   |
| * Liver          |  | Eosinophilic Focus             |                  |
|                  | [ Eosinophilic Focus TGLs = 1-14, 3-13 ]       |                                |                  |
| * Lung           |  | Alveolar/Bronchiolar Carcinoma |                  |
|                  | [ Alveolar/Bronchiolar Carcinoma TGLs = 2-12 ] |                                |                  |
| * Nose           |  | Accumulation, Hyaline Droplet  | Moderate         |
|                  | Respirat Epith                                 | Hyperplasia                    | Minimal          |
| * Uterus         | Endometrium                                    | Hyperplasia                    | Cystic, Mild     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 515

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57484

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone Marrow             | * 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      | * Lymph Node, Bronchial     |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |

MISSING

- |                           |                     |
|---------------------------|---------------------|
| * Lymph Node, Mediastinal | * Parathyroid Gland |
|---------------------------|---------------------|

OBSERVATIONS

- |                   |                                   |                               |                  |
|-------------------|-----------------------------------|-------------------------------|------------------|
| * Bone            |                                   | Fibro-Osseous Lesion          | Minimal          |
| * Eye             |                                   | Atrophy                       | Marked           |
| * Harderian Gland |                                   | Adenoma                       |                  |
|                   | [ Adenoma TGLs = 1-11 ]           |                               |                  |
| * Kidney          |                                   | Nephropathy                   | Minimal          |
| * Larynx          | Epiglottis                        | Fibrosis                      | Minimal          |
|                   |                                   | Metaplasia                    | Squamous, Mild   |
| * Liver           |                                   | Fatty Change                  | Minimal          |
| * Lung            | Bronchiole                        | Hyperplasia                   | Minimal          |
| * Nose            |                                   | Accumulation, Hyaline Droplet | Mild             |
|                   | Respirat Epith                    | Hyperplasia                   | Mild             |
| * Ovary           |                                   | Cyst                          | Minimal          |
| * Pituitary Gland | Pars Distalis                     | Hyperplasia                   | Minimal          |
| * Spleen          |                                   | Lymphoma Malignant            |                  |
|                   | [ Lymphoma Malignant TGLs = 2-5 ] |                               |                  |
| * Uterus          | Endometrium                       | Hyperplasia                   | Cystic, Moderate |
|                   | [ Hyperplasia TGLs = 3-9 ]        |                               |                  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

**ANIMAL ID:** 516

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 704

**DOSE:** 30 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57485

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- \* Adrenal Medulla
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Uterus
- \* Bone Marrow
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Salivary Glands
- \* Thyroid Gland
- \* Brain
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Skin
- \* Trachea
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder

**MISSING**

- \* Clitoral Gland
- \* Parathyroid Gland
- \* Thymus

**OBSERVATIONS**

- \* Adrenal Cortex
- \* Bone
- \* Gallbladder
- \* Heart
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- Lymphoma Malignant
- Fibro-Osseous Lesion
- Lymphoma Malignant
- Cardiomyopathy
- Lymphoma Malignant
- Nephropathy
- Fibrosis
- Metaplasia
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Minimal
- Mild
- Mild
- Minimal
- Squamous, Mild
- TGLs = 2-5 ]
- TGLs = 8-15 ]
- TGLs = 5-12 ]
- TGLs = 4-6 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 516

TRT#: 6

SEX: Female

DAY ON TEST: 704

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57485

ORGAN AND ACCOUNTABLE SITE STATUS

[ Lymphoma Malignant TGLs = 1-3 ]

\* Lymph Node, Mesenteric

Lymphoma Malignant

Mesentery

Fat

Necrosis

Minimal

[ Necrosis TGLs = 6-13, 7-14 ]

\* Nose

Accumulation, Hyaline Droplet

Moderate

Respirat Epith

Hyperplasia

Minimal

\* Ovary

Lymphoma Malignant

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 3-5 ]

PRIMARY CAUSE OF DEATH

- Spleen Lymphoma Malignant

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 517

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57486

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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            | * Pancreas                |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

- |                         |                     |
|-------------------------|---------------------|
| * Lymph Node, Bronchial | * Parathyroid Gland |
|-------------------------|---------------------|

OBSERVATIONS

- |                           |                                   |                               |                      |
|---------------------------|-----------------------------------|-------------------------------|----------------------|
| * Bone                    |                                   | Fibro-Osseous Lesion          | Minimal              |
| * Harderian Gland         |                                   | Adenoma                       |                      |
| * Kidney                  |                                   | Lymphoma Malignant            |                      |
|                           |                                   | Nephropathy                   | Mild                 |
| * Larynx                  |                                   | Metaplasia                    | Squamous, Mild       |
| * Liver                   |                                   | Lymphoma Malignant            |                      |
| * Lung                    | Bronchiole                        | Hyperplasia                   | Minimal              |
| * Lymph Node, Mediastinal |                                   | Lymphoma Malignant            |                      |
| Mesentery                 |                                   | Lymphoma Malignant            |                      |
| * Nose                    |                                   | Accumulation, Hyaline Droplet | Moderate             |
|                           | Respirat Epith                    | Hyperplasia                   | Minimal              |
|                           | Olfactory Epi                     | Metaplasia                    | Respiratory, Minimal |
| * Ovary                   |                                   | Lymphoma Malignant            |                      |
| * Pituitary Gland         | Pars Distalis                     | Hyperplasia                   | Minimal              |
| * Spleen                  |                                   | Lymphoma Malignant            |                      |
|                           | [ Lymphoma Malignant TGLs = 1-5 ] |                               |                      |
| * Thymus                  |                                   | Lymphoma Malignant            |                      |
| * Uterus                  | Endometrium                       | Hyperplasia                   | Cystic, Mild         |
|                           | [ Hyperplasia TGLs = 2-9 ]        |                               |                      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 518

TRT#: 6

SEX: Female

DAY ON TEST: 698

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57487

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Mediastinal   | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- |                         |                          |
|-------------------------|--------------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular |
|-------------------------|--------------------------|

OBSERVATIONS

- |                          |                             |                               |                            |
|--------------------------|-----------------------------|-------------------------------|----------------------------|
| * Bone                   |                             | Fibro-Osseous Lesion          | Mild                       |
| * Kidney                 |                             | Nephropathy                   | Minimal                    |
| * Larynx                 |                             | Metaplasia                    | Squamous, Mild             |
| * Liver                  |                             | Angiectasis                   | Minimal                    |
|                          | [ Angiectasis TGLs = 4-5 ]  |                               |                            |
| * Lung                   |                             | Carcinoma                     | Metastatic (Mammary Gland) |
| * Lymph Node, Mesenteric |                             | Ectasia                       | Mild                       |
|                          | [ Ectasia TGLs = 3-8 ]      |                               |                            |
| * Mammary Gland          |                             | Carcinoma                     |                            |
|                          | [ Carcinoma TGLs = 1-12 ]   |                               |                            |
| * Nose                   |                             | Accumulation, Hyaline Droplet | Moderate                   |
|                          | Respirat Epith              | Hyperplasia                   | Minimal                    |
|                          | Glands, Olfactory Epi       | Hyperplasia                   | Minimal                    |
| * Uterus                 |                             | Dilatation                    | Moderate                   |
|                          |                             | Inflammation                  | Granulomatous, Marked      |
|                          | [ Inflammation TGLs = 2-9 ] |                               |                            |

PRIMARY CAUSE OF DEATH - Mammary Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 519

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57488

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Spleen
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Salivary Glands
- \* Stomach, Glandular
- \* Uterus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Skin
- \* Thymus

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 1-5 ]
- \* Nose
- \* Thyroid Gland
- Respirat Epith
- Hyperplasia
- Nephropathy
- Metaplasia
- Hepatocellular Adenoma
- Tension Lipidosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Inflammation
- Minimal
- Minimal
- Squamous, Moderate
- Minimal
- Moderate
- Minimal
- Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 520

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57489

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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          | * Ovary                    | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                           |  |                               |                    |
|---------------------------|--|-------------------------------|--------------------|
| * Adrenal Cortex          |  | Hyperplasia                   | Minimal            |
| * Bone                    |  | Fibro-Osseous Lesion          | Minimal            |
| * Kidney                  |  | Lymphoma Malignant            |                    |
|                           |  | Nephropathy                   | Minimal            |
| * Larynx                  | Epiglottis                               | Fibrosis                      | Minimal            |
|                           |  | Metaplasia                    | Squamous, Moderate |
| * Liver                   |  | Hepatocellular Adenoma        |                    |
| * Lung                    |  | Lymphoma Malignant            |                    |
| Lymph Node                | Iliac                                    | Lymphoma Malignant            |                    |
|                           | Renal                                    | Lymphoma Malignant            |                    |
|                           | [ Lymphoma Malignant TGLs = 4-13 ]       |                               |                    |
|                           | [ Lymphoma Malignant TGLs = 2-12, 3-12 ] |                               |                    |
| * Lymph Node, Bronchial   |  | Lymphoma Malignant            |                    |
| * Lymph Node, Mediastinal |  | Lymphoma Malignant            |                    |
| * Lymph Node, Mesenteric  |  | Lymphoma Malignant            |                    |
| Mesentery                 |  | Lymphoma Malignant            |                    |
| * Nose                    |  | Accumulation, Hyaline Droplet | Moderate           |
|                           | Respirat Epith                           | Hyperplasia                   | Mild               |
| * Pancreas                | Acinus                                   | Atrophy                       | Mild               |
| * Pituitary Gland         | Pars Distalis                            | Hyperplasia                   | Marked             |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 520

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57489

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 1-5 ]

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 521

TRT#: 6

SEX: Female

DAY ON TEST: 608

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57490

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pituitary Gland
- \* Trachea
- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Mammary Gland
- \* Salivary Glands
- \* Bone
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Pancreas
- Spinal Cord
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- Peripheral Nerve
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- Blood Vessel Inflammation Chronic Active, Moderate
- \* Clitoral Gland Inflammation Chronic Active, Moderate
- \* Kidney Nephropathy Mild  
[ Nephropathy TGLs = 7-6 ]
- \* Larynx Epiglottis Fibrosis Minimal  
Metaplasia Squamous, Mild
- \* Liver Basophilic Focus
- \* Lung Bronchiole Lymphoma Malignant  
Hyperplasia Minimal
- Lymph Node Axillary Lymphoma Malignant
- Renal Lymphoma Malignant
- Lumbar Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 4-14 ]
- [ Lymphoma Malignant TGLs = 8-12 ]
- [ Lymphoma Malignant TGLs = 9-13 ]
- \* Lymph Node, Mandibular Lymphoma Malignant  
[ Lymphoma Malignant TGLs = 2-8 ]
- \* Lymph Node, Mediastinal Lymphoma Malignant  
[ Lymphoma Malignant TGLs = 3-3 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 521

TRT#: 6

SEX: Female

DAY ON TEST: 608

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57490

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mesenteric		Lymphoma Malignant	
[ Lymphoma Malignant	TGLs = 10-7 ]		
Mesentery	Arteriole	Inflammation	Chronic Active, Moderate
* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
	Olfactory Epi	Metaplasia	Respiratory, Minimal
* Ovary		Cyst	Mild
		Inflammation	Chronic Active, Mild
Skeletal Muscle	Arteriole	Inflammation	Chronic Active, Moderate
* Skin		Ulcer	Moderate
[ Ulcer	TGLs = 1-15 ]		
* Spleen		Lymphoma Malignant	
[ Lymphoma Malignant	TGLs = 5-5 ]		
* Stomach, Forestomach	Arteriole	Inflammation	Chronic Active, Minimal
* Stomach, Glandular	Arteriole	Inflammation	Chronic Active, Moderate
Ureter		Lymphoma Malignant	
[ Lymphoma Malignant	TGLs = 11-16 ]		
* Urinary Bladder	Arteriole	Inflammation	Chronic Active, Minimal
* Uterus		Dilatation	Marked
		Inflammation	Suppurative, Mild
[ Inflammation	TGLs = 6-9 ]		

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 522

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57491

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * 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, Mediastinal  | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Ovary                  | * Pancreas                 | * Parathyroid Gland       |
| * Salivary Glands           | * Skin                   | * Spleen                   | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Thyroid Gland            | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |                       |                               |                  |
|-------------------|-----------------------|-------------------------------|------------------|
| * Adrenal Cortex  |                       | Hyperplasia                   | Minimal          |
| * Eye             | Lens                  | Degeneration                  | Minimal          |
| * Kidney          |                       | Infarct                       | Mild             |
|                   |                       | Nephropathy                   | Minimal          |
| * Larynx          | Epiglottis            | Fibrosis                      | Minimal          |
|                   |                       | Metaplasia                    | Squamous, Mild   |
|                   |                       | Necrosis                      | Minimal          |
| * Liver           |                       | Basophilic Focus              |                  |
|                   |                       | Eosinophilic Focus            |                  |
|                   |                       | Histiocytic Sarcoma           |                  |
| * Nose            |                       | Accumulation, Hyaline Droplet | Moderate         |
|                   | Respirat Epith        | Hyperplasia                   | Minimal          |
|                   | Glands, Olfactory Epi | Hyperplasia                   | Mild             |
| * Pituitary Gland | Pars Distalis         | Hyperplasia                   | Minimal          |
| * Uterus          | Endometrium           | Hyperplasia                   | Cystic, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 523

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57492

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Bronchial  | * Lymph Node, Mandibular   | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric    | * Mammary Gland          | * Ovary                    | * Pancreas                |
| * Parathyroid Gland         | * Salivary Glands        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           |
| * Trachea                   | * Urinary Bladder        |                            |                           |

OBSERVATIONS

- |                   |                                       |                               |                      |
|-------------------|---------------------------------------|-------------------------------|----------------------|
| * Adrenal Cortex  |                                       | Hyperplasia                   | Minimal              |
| * Harderian Gland |                                       | Atrophy                       | Mild                 |
|                   |                                       | Hyperplasia                   | Minimal              |
|                   |                                       | Inflammation                  | Suppurative, Minimal |
| * Kidney          |                                       | Nephropathy                   | Minimal              |
| * Larynx          |                                       | Metaplasia                    | Squamous, Mild       |
| * Liver           | [ Hepatocellular Adenoma TGLs = 1-5 ] | Hepatocellular Adenoma        |                      |
| * Nose            |                                       | Accumulation, Hyaline Droplet | Mild                 |
|                   | Respirat Epith                        | Hyperplasia                   | Mild                 |
| * Pituitary Gland | Pars Distalis                         | Hyperplasia                   | Mild                 |
| * Uterus          | Endometrium                           | Hyperplasia                   | Cystic, Minimal      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 524

TRT#: 6

SEX: Female

DAY ON TEST: 709

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57493

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder
- \* Uterus

MISSING

- \* Thymus

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Marked  
[ Nephropathy TGLs = 4-6 ]
- \* Larynx Metaplasia Squamous, Mild
- \* Liver Hepatocellular Adenoma  
[ Hepatocellular Adenoma TGLs = 1-5+6 ]
- \* Lung Infiltration Cellular Histiocyte, Minimal  
[ Infiltration Cellular TGLs = 2-13, 3-12 ]
- \* Nose Accumulation, Hyaline Droplet Mild  
Respirat Epith Minimal  
Glands, Olfactory Epi Minimal
- \* Ovary Cyst Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 525

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57494

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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, Mesenteric    | * Mammary Gland          | * Ovary                    |
| * Pancreas                | * Pituitary Gland           | * Salivary Glands        | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                           |                                    |                               |                   |
|---------------------------|------------------------------------|-------------------------------|-------------------|
| * Bone                    |                                    | Fibro-Osseous Lesion          | Minimal           |
| * Kidney                  |                                    | Infarct                       | Mild              |
|                           |                                    | Nephropathy                   | Mild              |
| * Larynx                  |                                    | Metaplasia                    | Squamous, Mild    |
| * Liver                   |                                    | Hyperplasia                   | Mild              |
|                           | [ Hyperplasia TGLs = 2-5 ]         |                               |                   |
| * Lung                    |                                    | Schwannoma Malignant          | Metastatic (Skin) |
| Lymph Node                | Iliac                              | Lymphoma Malignant            |                   |
|                           | Renal                              | Lymphoma Malignant            |                   |
|                           | [ Lymphoma Malignant TGLs = 5-12 ] |                               |                   |
|                           | [ Lymphoma Malignant TGLs = 8-13 ] |                               |                   |
| * Lymph Node, Bronchial   |                                    | Lymphoma Malignant            |                   |
| * Lymph Node, Mandibular  |                                    | Lymphoma Malignant            |                   |
| * Lymph Node, Mediastinal |                                    | Lymphoma Malignant            |                   |
|                           | [ Lymphoma Malignant TGLs = 3-3 ]  |                               |                   |
| Mesentery                 |                                    | Fibrosis                      | Mild              |
|                           |                                    | Lymphoma Malignant            |                   |
| * Nose                    |                                    | Accumulation, Hyaline Droplet | Mild              |
|                           | Respirat Epith                     | Hyperplasia                   | Mild              |
| * Skin                    |                                    | Schwannoma Malignant          |                   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 525

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57494

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	[ Schwannoma Malignant TGLs = 6-14, 7-15 ]		
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 1-5 ]		
* Thymus		Lymphoma Malignant	
* Uterus	Endometrium	Hyperplasia	Cystic, Mild

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 526

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57495

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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, Mediastinal  | * 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        |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |          |                |                               |                         |
|----------|----------------|-------------------------------|-------------------------|
| * Kidney |                | Nephropathy                   | Minimal                 |
| * Larynx |                | Metaplasia                    | Squamous, Mild          |
| * Liver  |                | Tension Lipidosis             | Minimal                 |
| * Nose   |                | Accumulation, Hyaline Droplet | Moderate                |
|          | Respirat Epith | Hyperplasia                   | Minimal                 |
| * Uterus | Endometrium    | Hyperplasia                   | Cystic, Moderate        |
|          |                | Inflammation                  | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 527

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57496

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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, Bronchial  |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Ovary                  |
| * Pancreas                 | * Pituitary Gland         | * Salivary Glands           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

- |                           |                     |
|---------------------------|---------------------|
| * Lymph Node, Mediastinal | * Parathyroid Gland |
|---------------------------|---------------------|

OBSERVATIONS

- |          |                                       |                               |                  |
|----------|---------------------------------------|-------------------------------|------------------|
| * Kidney |                                       | Nephropathy                   | Minimal          |
| * Larynx |                                       | Metaplasia                    | Squamous, Mild   |
| * Liver  | [ Hepatocellular Adenoma TGLs = 1-5 ] | Hepatocellular Adenoma        |                  |
| * Nose   |                                       | Accumulation, Hyaline Droplet | Moderate         |
|          | Respirat Epith                        | Hyperplasia                   | Mild             |
|          | Glands, Olfactory Epi                 | Hyperplasia                   | Mild             |
| * Uterus | Endometrium                           | Hyperplasia                   | Cystic, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 528

TRT#: 6

SEX: Female

DAY ON TEST: 681

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57497

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * 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      | * Liver                     |
| * Lung                   | * Lymph Node, Bronchial    | * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas                | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         |                             |

MISSING

- |                   |                     |
|-------------------|---------------------|
| * Adrenal Medulla | * Parathyroid Gland |
|-------------------|---------------------|

OBSERVATIONS

- |                   |                |                               |                                      |
|-------------------|----------------|-------------------------------|--------------------------------------|
| * Bone            |                | Fibro-Osseous Lesion          | Minimal                              |
| * Brain           |                | Compression                   | Moderate                             |
| * Kidney          |                | Nephropathy                   | Minimal                              |
| * Larynx          |                | Metaplasia                    | Squamous, Moderate                   |
| Lymph Node        | Lumbar         | Ectasia                       | Moderate                             |
|                   | Renal          | Ectasia                       | Minimal                              |
|                   |                |                               | [ Ectasia TGLs = 6-12 ]              |
|                   |                |                               | [ Ectasia TGLs = 7-13 ]              |
| * Nose            |                | Accumulation, Hyaline Droplet | Mild                                 |
|                   | Olfactory Epi  | Metaplasia                    | Respiratory, Moderate                |
|                   |                | Necrosis                      | Mild                                 |
| * Ovary           |                | Infiltration Cellular         | Lymphocyte, Minimal                  |
|                   |                |                               | [ Infiltration Cellular TGLs = 5-8 ] |
| * Pituitary Gland | Pars Distalis  | Adenoma                       |                                      |
|                   |                |                               | [ Adenoma TGLs = 2-9 ]               |
| * Thyroid Gland   | Follicular Cel | Hyperplasia                   | Mild                                 |
|                   |                |                               | [ Hyperplasia TGLs = 1-3 ]           |
| * Uterus          | Endometrium    | Hyperplasia                   | Cystic, Mild                         |
|                   |                |                               | [ Hyperplasia TGLs = 4-9 ]           |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 528

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 681

**DOSE:** 30 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57497

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 529

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57498

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Brain
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Medulla
  - \* Intestine Large, Rectum
  - \* Kidney
  - \* Larynx
  - \* Liver
  - \* Lung
  - \* Nose
  - \* Ovary
  - \* Uterus
- [ Cystadenocarcinoma TGLs = 1-8 ]

- Hyperplasia
  - Inflammation
  - Nephropathy
  - Fibrosis
  - Metaplasia
  - Eosinophilic Focus
  - Hyperplasia
  - Accumulation, Hyaline Droplet
  - Hyperplasia
  - Hyperplasia
  - Cystadenocarcinoma
  - Hyperplasia
- Minimal
- Chronic Active, Mild
- Minimal
- Minimal
- Squamous, Mild
- Minimal
- Moderate
- Mild
- Mild
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 530

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57499

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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                     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Mammary Gland           | * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

OBSERVATIONS

- |                          |                                   |                               |                         |
|--------------------------|-----------------------------------|-------------------------------|-------------------------|
| * Bone                   | Cranium                           | Inflammation                  | Chronic Active, Mild    |
| * Kidney                 |                                   | Nephropathy                   | Minimal                 |
| * Larynx                 | Epiglottis                        | Fibrosis                      | Minimal                 |
|                          |                                   | Metaplasia                    | Squamous, Mild          |
| * Lung                   |                                   | Lymphoma Malignant            |                         |
| * Lymph Node, Bronchial  |                                   | Lymphoma Malignant            |                         |
| * Lymph Node, Mesenteric |                                   | Lymphoma Malignant            |                         |
| Mesentery                |                                   | Lymphoma Malignant            |                         |
| * Nose                   |                                   | Accumulation, Hyaline Droplet | Mild                    |
|                          | Respirat Epith                    | Hyperplasia                   | Mild                    |
|                          |                                   | Inflammation                  | Chronic Active, Minimal |
| * Ovary                  |                                   | Cyst                          | Moderate                |
|                          |                                   | Hemorrhage                    | Minimal                 |
|                          | [ Cyst TGLs = 2-8 ]               |                               |                         |
| * Pituitary Gland        | Pars Distalis                     | Hyperplasia                   | Minimal                 |
| * Spleen                 |                                   | Lymphoma Malignant            |                         |
|                          | [ Lymphoma Malignant TGLs = 1-5 ] |                               |                         |
| Tooth                    |                                   | Dysplasia                     | Minimal                 |
| * Uterus                 | Endometrium                       | Hyperplasia                   | Cystic, Minimal         |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 531

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57500

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Spleen
- \* Thyroid Gland
- \* Bone
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Clitoral Gland
- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Harderian Gland
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 3-12 ]
- Mesentery
- [ Cyst TGLs = 2-13 ]
- \* Nose
- \* Ovary
- [ Cyst TGLs = 1-8 ]
- \* Uterus
- Adenoma
- Nephropathy
- Metaplasia
- Basophilic Focus
- Hepatocellular Adenoma
- Cyst
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Cyst
- Hyperplasia
- Minimal
- Squamous, Mild
- Minimal
- Mild
- Mild
- Minimal
- Moderate
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 532

TRT#: 6

SEX: Female

DAY ON TEST: 705

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57501

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Bone Marrow
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Salivary Glands
- \* Thyroid Gland
- \* Brain
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Skin
- \* Trachea
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder

MISSING

- \* Clitoral Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Gallbladder
- \* Harderian Gland
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Lymph Node
- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- Lymphoma Malignant
- Fibro-Osseous Lesion
- Lymphoma Malignant
- Hyperplasia
- Lymphoma Malignant
- Nephropathy
- Fibrosis
- Metaplasia
- Lymphoma Malignant
- Necrosis
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant

TGLs = 3-6, 4-6, 5-6 ]

Epiglottis

TGLs = 8-12, 9-6, 10-13, 11-14. 12-16, 13-15, 14-5 ]

TGLs = 15-17, 16-18 ]

Renal

Iliac

TGLs = 6-19 ]

TGLs = 7-20 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 532

TRT#: 6

SEX: Female

DAY ON TEST: 705

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57501

ORGAN AND ACCOUNTABLE SITE STATUS

Mesentery		Lymphoma Malignant	
* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
* Ovary		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 2-8 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 1-5 ]		
* Thymus		Lymphoma Malignant	
* Uterus		Dilatation	Mild
	[ Dilatation TGLs = 17-9 ]		

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 533

TRT#: 6

SEX: Female

DAY ON TEST: 677

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57502

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Rectum
- \* Mammary Gland
- \* Stomach, Forestomach
- \* Uterus
- \* Bone Marrow
- \* Eye
- \* Intestine Small, Duodenum
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Brain
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Salivary Glands
- \* Trachea
- \* Clitoral Gland
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Skin
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Gallbladder
- \* Harderian Gland
- \* Heart
- \* Islets, Pancreatic
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Lymph Node
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- Lymphoma Malignant TGLs = 6-5
- Renal Iliac Axillary
- [ Lymphoma Malignant TGLs = 4-12 ]
- [ Lymphoma Malignant TGLs = 5-13 ]
- [ Lymphoma Malignant TGLs = 7-14 ]
- Lymphoma Malignant
- Fibro-Osseous Lesion Mild
- Lymphoma Malignant
- Adenoma
- Lymphoma Malignant
- Lymphoma Malignant
- Nephropathy Mild
- Metaplasia Squamous, Mild
- Lymphoma Malignant
- Alveolar/Bronchiolar Adenoma
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 533

TRT#: 6

SEX: Female

DAY ON TEST: 677

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57502

ORGAN AND ACCOUNTABLE SITE STATUS

[ Lymphoma Malignant TGLs = 8-7 ]

Mesentery

Lymphoma Malignant

\* Nose

Accumulation, Hyaline Droplet

Moderate

\* Ovary

Lymphoma Malignant

\* Pancreas

Lymphoma Malignant

\* Pituitary Gland

Pars Distalis

Hyperplasia

Mild

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 3-5 ]

\* Thymus

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 1-3 ]

\* Thyroid Gland

Lymphoma Malignant

PRIMARY CAUSE OF DEATH

- Spleen Lymphoma Malignant

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 534

TRT#: 6

SEX: Female

DAY ON TEST: 644

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57503

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Thymus
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Skin
- \* Thyroid Gland
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Pituitary Gland

OBSERVATIONS

- \* Adrenal Cortex
  - \* Eye
    - [ Atrophy TGLs = 7-11 ]
  - \* Harderian Gland
    - [ Carcinoma TGLs = 2-10 ]
  - \* Kidney
  - \* Larynx
  - \* Liver
    - [ Hepatocellular Adenoma TGLs = 4-5, 5-13, 8-5 ]
    - [ Hepatocellular Carcinoma TGLs = 6-12 ]
  - \* Lung
    - [ Hepatocellular Carcinoma TGLs = 9-4, 10-4, 11-4, 12-4, 13-4, 14-4 ]
  - \* Nose
  - \* Ovary
- |  |                               |                              |
|--|-------------------------------|------------------------------|
|  | Hepatocellular Carcinoma      | Metastatic (Liver)           |
|  | Atrophy                       | Marked                       |
|  | Carcinoma                     | Metastatic (Harderian Gland) |
|  | Carcinoma                     |                              |
|  | Nephropathy                   | Mild                         |
|  | Fibrosis                      | Minimal                      |
|  | Metaplasia                    | Squamous, Mild               |
|  | Hepatocellular Adenoma        | Multiple                     |
|  | Hepatocellular Carcinoma      |                              |
|  | Hepatocellular Carcinoma      | Metastatic (Liver)           |
|  | Accumulation, Hyaline Droplet | Moderate                     |
|  | Carcinoma                     | Metastatic (Harderian Gland) |
|  | Hyperplasia                   | Mild                         |
|  | Hyperplasia                   | Minimal                      |
|  | Cyst                          | Mild                         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 534

TRT#: 6

SEX: Female

DAY ON TEST: 644

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57503

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

Hematopoietic Cell Proliferation

Mild

[ Hematopoietic Cell Proliferation TGLs = 3-5 ]

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

---

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Carcinoma

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 535

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57504

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Pancreas
- \* Spleen
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Lung
- Mesentery  
[ Necrosis TGLs = 1-12 ]
- \* Nose
- \* Ovary  
[ Cyst TGLs = 2-8 ]
- \* Uterus
- Nephropathy
- Fibrosis
- Metaplasia
- Hyperplasia
- Necrosis
- Accumulation, Hyaline Droplet
- Hyperplasia
- Cyst
- Hyperplasia
- Mild
- Minimal
- Squamous, Mild
- Minimal
- Minimal
- Moderate
- Mild
- Moderate
- Cystic, Minimal

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 536

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57505

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Bronchial    | * Lymph Node, Mandibular  |
| * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric | * Mammary Gland            | * Ovary                   |
| * Pancreas                  | * Pituitary Gland        | * Salivary Glands          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                  |                       |                               |                |
|------------------|-----------------------|-------------------------------|----------------|
| * Adrenal Cortex |                       | Hyperplasia                   | Minimal        |
| * Bone           |                       | Fibro-Osseous Lesion          | Mild           |
| * Kidney         |                       | Metaplasia                    | Osseous, Mild  |
|                  |                       | Nephropathy                   | Minimal        |
| * Larynx         |                       | Metaplasia                    | Squamous, Mild |
| * Nose           |                       | Accumulation, Hyaline Droplet | Mild           |
|                  | Glands, Olfactory Epi | Hyperplasia                   | Mild           |
| * Uterus         | Endometrium           | Hyperplasia                   | Cystic, Mild   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 537

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57506

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Liver                     | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Pancreas               | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach   | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

- |                           |                     |
|---------------------------|---------------------|
| * Lymph Node, Mediastinal | * Parathyroid Gland |
|---------------------------|---------------------|

OBSERVATIONS

- |                      |                               |                               |                         |
|----------------------|-------------------------------|-------------------------------|-------------------------|
| * Harderian Gland    |                               | Hyperplasia                   | Minimal                 |
| * Kidney             |                               | Infarct                       | Mild                    |
|                      |                               | Nephropathy                   | Minimal                 |
| * Larynx             |                               | Metaplasia                    | Squamous, Mild          |
| * Lung               | Bronchiole                    | Hyperplasia                   | Minimal                 |
| * Nose               |                               | Accumulation, Hyaline Droplet | Moderate                |
|                      | Respirat Epith                | Hyperplasia                   | Mild                    |
|                      | Glands, Olfactory Epi         | Hyperplasia                   | Mild                    |
|                      |                               | Inflammation                  | Chronic Active, Minimal |
| * Ovary              |                               | Hemorrhage                    | Mild                    |
| * Pituitary Gland    | Pars Distalis                 | Hyperplasia                   | Mild                    |
| * Stomach, Glandular | Glands                        | Mineralization                | Minimal                 |
| * Thymus             |                               | Thymoma Benign                |                         |
|                      | [ Thymoma Benign TGLs = 2-3 ] |                               |                         |
| * Uterus             | Endometrium                   | Hyperplasia                   | Cystic, Moderate        |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 538

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57507

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Pancreas               | * Pituitary Gland          | * Salivary Glands         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

- |               |                     |
|---------------|---------------------|
| * Gallbladder | * Parathyroid Gland |
|---------------|---------------------|

OBSERVATIONS

- |                      |  |                                |                  |
|----------------------|--|--------------------------------|------------------|
| * Bone               |  | Fibro-Osseous Lesion           | Minimal          |
| * Kidney             |  | Nephropathy                    | Minimal          |
| * Larynx             | Epiglottis                                     | Fibrosis                       | Minimal          |
|                      |  | Metaplasia                     | Squamous, Mild   |
| * Liver              | [ Hepatocellular Adenoma TGLs = 2-5 ]          | Hepatocellular Adenoma         |                  |
| * Lung               | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-12 ] | Alveolar/Bronchiolar Carcinoma |                  |
|                      | Bronchiole                                     | Hyperplasia                    | Minimal          |
| * Nose               |  | Accumulation, Hyaline Droplet  | Moderate         |
|                      | Respirat Epith                                 | Hyperplasia                    | Mild             |
|                      | Glands, Olfactory Epi                          | Hyperplasia                    | Minimal          |
| * Ovary              |  | Hemorrhage                     | Mild             |
| * Stomach, Glandular |  | Fibrosis                       | Minimal          |
| * Uterus             | Endometrium                                    | Hyperplasia                    | Cystic, Moderate |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 539

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57508

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Ovary
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Stomach, Glandular
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Liver
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Thyroid Gland
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Ileum
- \* Lung
- \* Mammary Gland
- \* Skin
- \* Trachea

MISSING

- \* Gallbladder
- \* Lymph Node, Mandibular
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Medulla  
[ Pheochromocytoma Malignant TGLs = 3-3 ]
- \* Bone
- \* Intestine Small, Duodenum  
[ Carcinoma TGLs = 2-12 ]
- \* Kidney
- \* Larynx
- \* Nose
- \* Pituitary Gland
- \* Spleen  
[ Hematopoietic Cell Proliferation TGLs = 1-5 ]
- \* Thymus
- \* Uterus
- Pars Intermed
- Pheochromocytoma Malignant
- Fibro-Osseous Lesion
- Carcinoma
- Nephropathy
- Metaplasia
- Accumulation, Hyaline Droplet
- Adenoma
- Hematopoietic Cell Proliferation
- Angiectasis
- Hyperplasia
- Minimal
- Mild
- Squamous, Mild
- Mild
- Mild
- Mild
- Marked
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 540

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57509

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone Marrow             | * 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      | * Liver                     |
| * Lymph Node, Bronchial  | * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  |
| * Parathyroid Gland      | * Salivary Glands          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- |                  |               |                          |                           |
|------------------|---------------|--------------------------|---------------------------|
| * Clitoral Gland | * Gallbladder | * Lymph Node, Mandibular | * Lymph Node, Mediastinal |
|------------------|---------------|--------------------------|---------------------------|

OBSERVATIONS

- |                   |               |                               |                      |
|-------------------|---------------|-------------------------------|----------------------|
| * Bone            |               | Fibro-Osseous Lesion          | Minimal              |
|                   | Cranium       | Inflammation                  | Chronic Active, Mild |
| * Kidney          |               | Nephropathy                   | Minimal              |
| * Larynx          |               | Metaplasia                    | Squamous, Mild       |
| * Lung            | Bronchiole    | Hyperplasia                   | Minimal              |
| * Nose            |               | Accumulation, Hyaline Droplet | Moderate             |
| * Ovary           |               | Hemorrhage                    | Mild                 |
| * Pituitary Gland | Pars Distalis | Hyperplasia                   | Minimal              |
| Tooth             |               | Dysplasia                     | Moderate             |
| * Uterus          | Endometrium   | Hyperplasia                   | Cystic, Mild         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 541

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57510

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * 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, Bronchial     |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Mammary Gland           | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |                             |

OBSERVATIONS

- |                          |                                       |                               |                   |
|--------------------------|---------------------------------------|-------------------------------|-------------------|
| * Adrenal Cortex         |                                       | Adenoma                       |                   |
| * Bone                   | Maxilla                               | Hyperostosis                  | Minimal           |
|                          | [ Hyperostosis TGLs = 1-10 ]          |                               |                   |
| * Brain                  |                                       | Compression                   | Moderate          |
| * Kidney                 |                                       | Nephropathy                   | Moderate          |
| * Larynx                 |                                       | Metaplasia                    | Squamous, Mild    |
| * Liver                  | Centrilobular                         | Hepatocellular Adenoma        |                   |
|                          | [ Hepatocellular Adenoma TGLs = 4-5 ] | Hypertrophy                   | Moderate          |
| * Lung                   | Bronchiole                            | Hyperplasia                   | Minimal           |
| Lymph Node               | Iliac                                 | Hyperplasia                   | Lymphoid, Minimal |
|                          | [ Hyperplasia TGLs = 7-6 ]            |                               |                   |
| * Lymph Node, Mesenteric |                                       | Ectasia                       | Mild              |
|                          | [ Ectasia TGLs = 5-6 ]                |                               |                   |
| Mesentery                | Fat                                   | Necrosis                      | Mild              |
|                          | [ Necrosis TGLs = 3-3 ]               |                               |                   |
| * Nose                   |                                       | Accumulation, Hyaline Droplet | Moderate          |
|                          | Respirat Epith                        | Hyperplasia                   | Mild              |
| * Pituitary Gland        | Pars Distalis                         | Adenoma                       |                   |
|                          | [ Adenoma TGLs = 2-9 ]                |                               |                   |
| * Uterus                 | Endometrium                           | Hyperplasia                   | Cystic, Moderate  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 542

TRT#: 6

SEX: Female

DAY ON TEST: 700

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57511

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                          |
|---------------------------|-----------------------------|---------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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  | * Islets, Pancreatic     |
| * Lung                    | * Lymph Node, Mandibular    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric |
| * Mammary Gland           | * Ovary                     | * Pancreas                | * Pituitary Gland        |
| * Salivary Glands         | * Skin                      | * Spleen                  | * Stomach, Glandular     |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder        |

MISSING

- |               |                         |                     |
|---------------|-------------------------|---------------------|
| * Gallbladder | * Lymph Node, Bronchial | * Parathyroid Gland |
|---------------|-------------------------|---------------------|

AUTO PRECLUDES DIAG.

- \* Intestine Small, Jejunum

OBSERVATIONS

- |  |                               |                |
|--|-------------------------------|----------------|
| * Kidney                               | Nephropathy                   | Mild           |
| * Larynx                               | Metaplasia                    | Squamous, Mild |
| * Liver                                | Hepatocellular Adenoma        |                |
| [ Hepatocellular Adenoma TGLs = 2-12 ] |                               |                |
| * Nose                                 | Accumulation, Hyaline Droplet | Mild           |
|  | Respirat Epith                | Mild           |
| * Stomach, Forestomach                 | Ulcer                         | Mild           |
| * Uterus                               | Dilatation                    | Moderate       |
| [ Dilatation TGLs = 1-9 ]              |                               |                |

PRIMARY CAUSE OF DEATH

- Liver Hepatocellular Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 543

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57512

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Clitoral Gland
- \* Esophagus
- \* Eye
- \* Gallbladder
- \* Harderian Gland
- \* Heart
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Intestine Small, Duodenum
- \* Intestine Small, Jejunum
- \* Islets, Pancreatic
- \* Liver
- \* Lymph Node, Mandibular
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal

OBSERVATIONS

- |                          |                       |                               |                         |
|--------------------------|-----------------------|-------------------------------|-------------------------|
| * Bone                   |                       | Fibro-Osseous Lesion          | Mild                    |
| * Intestine Large, Cecum |                       | Inflammation                  | Chronic Active, Minimal |
| * Intestine Small, Ileum |                       | Inflammation                  | Chronic Active, Minimal |
| * Kidney                 |                       | Nephropathy                   | Minimal                 |
| * Larynx                 | Epiglottis            | Fibrosis                      | Minimal                 |
|                          |                       | Metaplasia                    | Squamous, Mild          |
| * Lung                   | Bronchiole            | Hyperplasia                   | Minimal                 |
| * Nose                   |                       | Accumulation, Hyaline Droplet | Moderate                |
|                          | Respirat Epith        | Hyperplasia                   | Minimal                 |
|                          | Glands, Olfactory Epi | Hyperplasia                   | Minimal                 |
| * Stomach, Forestomach   |                       | Hyperplasia                   | Squamous, Moderate      |
| * Uterus                 | Endometrium           | Hyperplasia                   | Cystic, Moderate        |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 544

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57513

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Liver
- \* Mammary Gland
- \* Skin
- \* Thyroid Gland

MISSING

- \* Lymph Node, Mediastinal

OBSERVATIONS

- \* Larynx
- \* Lung
- Lymph Node
- [ Infiltration Cellular TGLs = 4-12 ]
- \* Nose
- \* Ovary
- \* Pituitary Gland
- [ Adenoma TGLs = 1-9 ]
- \* Spleen
- [ Hyperplasia TGLs = 2-5 ]
- \* Uterus
- [ Hyperplasia TGLs = 3-9 ]
- Bronchiole
- Lumbar
- Respirat Epith
- Pars Intermed
- Pars Distalis
- Endometrium
- Metaplasia
- Hyperplasia
- Infiltration Cellular
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hemorrhage
- Adenoma
- Hyperplasia
- Hyperplasia
- Hyperplasia
- Squamous, Mild
- Minimal
- Mixed Cell, Minimal
- Moderate
- Minimal
- Minimal
- Marked
- Lymphoid, Mild
- Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 545

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57514

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Lung
- \* Skin
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Stomach, Glandular
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Thyroid Gland
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Salivary Glands
- \* Trachea

MISSING

- \* Gallbladder

OBSERVATIONS

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>* Adrenal Cortex</li> <li>* Kidney</li> <li>* Larynx</li> <li>* Liver</li> </ul>  | <ul style="list-style-type: none"> <li>Hyperplasia</li> <li>Nephropathy</li> <li>Metaplasia</li> <li>Hepatocellular Adenoma</li> <li>Lymphoma Malignant</li> </ul> | <ul style="list-style-type: none"> <li>Minimal</li> <li>Mild</li> <li>Squamous, Mild</li> </ul> |
| <ul style="list-style-type: none"> <li>[ Hepatocellular Adenoma TGLs = 2-12 ]</li> <li>[ Lymphoma Malignant TGLs = 3-5 ]</li> </ul>  |  |   |
| <ul style="list-style-type: none"> <li>Lymph Node Renal</li> <li>Lymph Node Lumbar</li> </ul>  | <ul style="list-style-type: none"> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> </ul>   |   |
| <ul style="list-style-type: none"> <li>[ Lymphoma Malignant TGLs = 4-13 ]</li> <li>[ Lymphoma Malignant TGLs = 6-14 ]</li> </ul>   |  |   |
| <ul style="list-style-type: none"> <li>* Lymph Node, Bronchial</li> <li>* Lymph Node, Mandibular</li> <li>* Lymph Node, Mediastinal</li> <li>* Lymph Node, Mesenteric</li> </ul> | <ul style="list-style-type: none"> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> <li>Lymphoma Malignant</li> </ul>           |   |
| <ul style="list-style-type: none"> <li>[ Lymphoma Malignant TGLs = 7-7 ]</li> </ul>  |  |   |
| <ul style="list-style-type: none"> <li>Mesentery</li> </ul>  | <ul style="list-style-type: none"> <li>Lymphoma Malignant</li> </ul>   |   |
| <ul style="list-style-type: none"> <li>* Nose</li> </ul>   | <ul style="list-style-type: none"> <li>Accumulation, Hyaline Droplet</li> </ul>  | <ul style="list-style-type: none"> <li>Moderate</li> </ul>                                      |
| <ul style="list-style-type: none"> <li>* Ovary</li> </ul>  | <ul style="list-style-type: none"> <li>Respirat Epith</li> <li>Hyperplasia</li> <li>Cyst</li> </ul>  | <ul style="list-style-type: none"> <li>Minimal</li> <li>Minimal</li> </ul>                      |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 545

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57514

ORGAN AND ACCOUNTABLE SITE STATUS

[ Cyst TGLs = 5-8 ]

\* Pancreas

\* Pituitary Gland

\* Spleen

[ Lymphoma Malignant TGLs = 1-5 ]

\* Stomach, Forestomach

\* Thymus

\* Uterus

Pars Distalis

Endometrium

Lymphoma Malignant

Hyperplasia

Lymphoma Malignant

Hyperplasia

Lymphoma Malignant

Hyperplasia

Minimal

Squamous, Mild

Cystic, Mild

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 546

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57515

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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, Bronchial     | * Lymph Node, Mandibular |
| * Lymph Node, Mediastinal  | * Ovary                   | * Pancreas                  | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                          |                |                               |                          |
|--------------------------|----------------|-------------------------------|--------------------------|
| * Kidney                 |                | Nephropathy                   | Minimal                  |
| * Larynx                 | Epiglottis     | Fibrosis                      | Minimal                  |
|                          |                | Metaplasia                    | Squamous, Mild           |
| * Liver                  |                | Tension Lipidosis             | Minimal                  |
| * Lung                   |                | Alveolar/Bronchiolar Adenoma  |                          |
| * Lymph Node, Mesenteric |                | Angiectasis                   | Mild                     |
| * Mammary Gland          |                | Carcinoma                     |                          |
| Mesentery                | Fat            | Necrosis                      | Mild                     |
|                          |                |                               | [ Necrosis TGLs = 2-12 ] |
| * Nose                   |                | Accumulation, Hyaline Droplet | Mild                     |
|                          | Respirat Epith | Hyperplasia                   | Minimal                  |
| * Pituitary Gland        | Pars Distalis  | Hyperplasia                   | Mild                     |
| * Uterus                 |                | Carcinoma                     |                          |
|                          |                |                               | [ Carcinoma TGLs = 3-9 ] |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 547

TRT#: 6

SEX: Female

DAY ON TEST: 595

DOSE: 30 mg/m3

DISP: Natural Death

HISTO: 57516

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

\* Adrenal Cortex

\* Adrenal Medulla

\* Bone Marrow

\* Brain

\* Esophagus

\* Gallbladder

\* Harderian Gland

\* Heart

\* Intestine Large, Rectum

\* Intestine Small, Duodenum

\* Islets, Pancreatic

\* Liver

\* Lymph Node, Mandibular

\* Lymph Node, Mediastinal

\* Lymph Node, Mesenteric

\* Mammary Gland

\* Ovary

\* Pancreas

\* Pituitary Gland

\* Salivary Glands

\* Skin

\* Spleen

\* Stomach, Forestomach

\* Stomach, Glandular

\* Thymus

\* Thyroid Gland

\* Trachea

\* Urinary Bladder

MISSING

\* Clitoral Gland

\* Lymph Node, Bronchial

\* Parathyroid Gland

AUTO PRECLUDES DIAG.

\* Intestine Large, Cecum

\* Intestine Large, Colon

\* Intestine Small, Ileum

\* Intestine Small, Jejunum

OBSERVATIONS

\* Bone

Fibro-Osseous Lesion

Mild

\* Eye

Lens

Degeneration

Minimal

\* Kidney

Nephropathy

Mild

\* Larynx

Metaplasia

Squamous, Mild

\* Lung

Bronchiole

Hyperplasia

Minimal

\* Nose

Accumulation, Hyaline Droplet

Moderate

\* Uterus

Respirat Epith

Hyperplasia

Minimal

Dilatation

Minimal

[ Dilatation TGLs = 3-9 ]

PRIMARY CAUSE OF DEATH

- UNCERTAIN



**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 548

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 30 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57517

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

Inflammation

Chronic Active, Mild

\* Uterus

Endometrium

Hyperplasia

Cystic, Moderate

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 549

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 30 mg/m3

DISP: Terminal Sacrifice

HISTO: 57518

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                            |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                    | * 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      | * Liver                     | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Pancreas                  | * Salivary Glands         | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular      | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder         |                            |

MISSING

- |                         |                          |                     |
|-------------------------|--------------------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Parathyroid Gland |
|-------------------------|--------------------------|---------------------|

OBSERVATIONS

- |                   |                |                               |                    |
|-------------------|----------------|-------------------------------|--------------------|
| * Heart           |                | Cardiomyopathy                | Mild               |
| * Kidney          |                | Nephropathy                   | Minimal            |
| * Larynx          |                | Metaplasia                    | Squamous, Moderate |
| * Lung            | Alveolar Epith | Hyperplasia                   | Minimal            |
|                   | Bronchiole     | Hyperplasia                   | Minimal            |
| * Nose            |                | Accumulation, Hyaline Droplet | Moderate           |
|                   | Respirat Epith | Hyperplasia                   | Minimal            |
| * Ovary           |                | Hemorrhage                    | Minimal            |
| * Pituitary Gland | Pars Distalis  | Adenoma                       |                    |
| * Uterus          | Endometrium    | Hyperplasia                   | Cystic, Mild       |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 550

TRT#: 6

SEX: Female

DAY ON TEST: 502

DOSE: 30 mg/m3

DISP: Moribund Sacrifice

HISTO: 57519

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Pancreas
- \* Spleen
- \* Thyroid Gland
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Mammary Gland
- \* Salivary Glands
- \* Thymus

MISSING

- \* Clitoral Gland
- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Ovary

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Larynx
- \* Nose
- \* Skin
- \* Uterus
- Atrophy
- Fibro-Osseous Lesion
- Nephropathy
- Metaplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Sarcoma
- Inflammation
- Minimal
- Minimal
- Minimal
- Squamous, Mild
- Mild
- Mild
- Suppurative, Minimal

PRIMARY CAUSE OF DEATH - Skin Sarcoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 701

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57370

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                     | * Lymph Node, Mandibular |
| * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Mammary Gland             | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                   |                            |                               |                    |
|-------------------|----------------------------|-------------------------------|--------------------|
| * Kidney          |                            | Infarct                       | Moderate           |
|                   |                            | Nephropathy                   | Minimal            |
| * Larynx          | Epiglottis                 | Fibrosis                      | Minimal            |
|                   |                            | Metaplasia                    | Squamous, Moderate |
| * Lung            |                            | Hemorrhage                    | Mild               |
|                   | Alveolar Epith             | Hyperplasia                   | Moderate           |
|                   | Bronchiole                 | Hyperplasia                   | Minimal            |
|                   | [ Hemorrhage TGLs = 1-12 ] |                               |                    |
| * Nose            |                            | Accumulation, Hyaline Droplet | Moderate           |
|                   | Respirat Epith             | Hyperplasia                   | Mild               |
|                   | Glands, Olfactory Epi      | Hyperplasia                   | Minimal            |
| * Pituitary Gland | Pars Distalis              | Hyperplasia                   | Marked             |
| * Spleen          |                            | Lymphoma Malignant            |                    |
| * Uterus          | Endometrium                | Hyperplasia                   | Cystic, Moderate   |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 702

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57371

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                          |
|-----------------------------|--------------------------|----------------------------|--------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                  |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Gallbladder            |
| * Harderian Gland           | * Heart                  | * Intestine Large, Cecum   | * Intestine Large, Colon |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic     |
| * Lymph Node, Bronchial     | * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas               |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular     |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder        |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                           |                                   |                               |                      |
|---------------------------|-----------------------------------|-------------------------------|----------------------|
| * Adrenal Cortex          |                                   | Hyperplasia                   | Minimal              |
| * Intestine Large, Rectum |                                   | Inflammation                  | Chronic Active, Mild |
| * Kidney                  |                                   | Nephropathy                   | Mild                 |
| * Larynx                  | Epiglottis                        | Fibrosis                      | Minimal              |
|                           |                                   | Metaplasia                    | Squamous, Marked     |
| * Liver                   |                                   | Eosinophilic Focus            |                      |
|                           |                                   | Tension Lipidosis             |                      |
|                           | [ Eosinophilic Focus TGLs = 2-5 ] |                               |                      |
| * Lung                    | Bronchiole                        | Hyperplasia                   | Minimal              |
|                           |                                   | Infiltration Cellular         | Histiocyte, Minimal  |
|                           |                                   | Lymphoma Malignant            |                      |
| * Lymph Node, Mandibular  |                                   | Lymphoma Malignant            |                      |
| * Lymph Node, Mediastinal |                                   | Lymphoma Malignant            |                      |
| Mesentery                 |                                   | Lymphoma Malignant            |                      |
| * Nose                    |                                   | Accumulation, Hyaline Droplet | Moderate             |
|                           | Respirat Epith                    | Hyperplasia                   | Minimal              |
|                           | Glands, Olfactory Epi             | Hyperplasia                   | Minimal              |
| * Ovary                   |                                   | Cyst                          | Mild                 |
|                           | [ Cyst TGLs = 1-8 ]               |                               |                      |
| * Pituitary Gland         | Pars Distalis                     | Hyperplasia                   | Moderate             |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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**ANIMAL ID:** 702

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 100 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57371

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

\* Uterus

Endometrium

Lymphoma Malignant

Hyperplasia

Inflammation

Cystic, Mild

Chronic Active, Mild

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 703

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57372

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Liver
- \* Mammary Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Heart Cardiomyopathy Mild
- \* Islets, Pancreatic Lymphoma Malignant
- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- \* Lung Bronchiole Metaplasia Squamous, Marked
- Hyperplasia Minimal
- Infiltration Cellular Histiocyte, Minimal
- Lymphoma Malignant
- Mineralization Minimal
- \* Lymph Node, Bronchial Lymphoma Malignant
- \* Lymph Node, Mandibular Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- Mesentery Fat Necrosis Minimal
- [ Necrosis TGLs = 2-12 ]
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Mild
- Glands, Olfactory Epi Hyperplasia Minimal
- \* Ovary Cyst Minimal
- Hemorrhage Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 703

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57372

ORGAN AND ACCOUNTABLE SITE STATUS

* Pancreas		Lipomatosis	Minimal
* Pituitary Gland		Angiectasis	Moderate
	Pars Distalis	Hyperplasia	Moderate
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 1-5 ]		
* Thymus		Lymphoma Malignant	
* Thyroid Gland	C Cell	Adenoma	
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 704

TRT#: 8

SEX: Female

DAY ON TEST: 596

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57373

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Lymph Node, Mesenteric
- Spinal Cord
- \* Thymus
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Spleen
- \* Thyroid Gland
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Kidney
- \* Larynx
- \* Nose
- \* Ovary
- Peripheral Nerve
- \* Pituitary Gland
- Skeletal Muscle
- \* Skin
- [ Sarcoma TGLs = 1-14 ]
- \* Uterus
- [ Hyperplasia TGLs = 2-9 ]
- Vertebra
- Respirat Epith
- Pars Distalis
- Endometrium
- Hyperplasia
- Sarcoma
- Nephropathy
- Metaplasia
- Accumulation, Hyaline Droplet
- Hyperplasia
- Cyst
- Sarcoma
- Hyperplasia
- Infiltration Cellular
- Sarcoma
- Sarcoma
- Hyperplasia
- Minimal
- Metastatic (Skin)
- Minimal
- Squamous, Moderate
- Moderate
- Minimal
- Minimal
- Metastatic (Skin)
- Mild
- Polymorphnuclr, Mild
- Metastatic (Skin)
- Cystic, Marked

PRIMARY CAUSE OF DEATH - Skin Sarcoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 705

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57374

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * 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, Bronchial     | * Mammary Gland          | * Pancreas                 | * Parathyroid Gland       |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |

MISSING

- \* Lymph Node, Mediastinal

OBSERVATIONS

- |                          |                                       |                               |                      |
|--------------------------|---------------------------------------|-------------------------------|----------------------|
| * Adrenal Medulla        |                                       | Hyperplasia                   | Minimal              |
| * Bone                   |                                       | Fibro-Osseous Lesion          | Minimal              |
| * Kidney                 |                                       | Lymphoma Malignant            |                      |
|                          | [ Lymphoma Malignant TGLs = 2-6 ]     |                               |                      |
| * Larynx                 | Epiglottis                            | Fibrosis                      | Minimal              |
|                          |                                       | Metaplasia                    | Squamous, Marked     |
| * Liver                  |                                       | Hepatocellular Adenoma        |                      |
|                          | [ Hepatocellular Adenoma TGLs = 1-6 ] |                               |                      |
| * Lung                   | Bronchiole                            | Hyperplasia                   | Minimal              |
| * Lymph Node, Mandibular |                                       | Lymphoma Malignant            |                      |
| * Lymph Node, Mesenteric |                                       | Lymphoma Malignant            |                      |
| * Nose                   |                                       | Accumulation, Hyaline Droplet | Moderate             |
| * Ovary                  |                                       | Cyst                          | Moderate             |
|                          |                                       | Inflammation                  | Chronic Active, Mild |
|                          | [ Inflammation TGLs = 3-8 ]           |                               |                      |
| * Pituitary Gland        | Pars Distalis                         | Hyperplasia                   | Mild                 |
| * Spleen                 |                                       | Lymphoma Malignant            |                      |
|                          | [ Lymphoma Malignant TGLs = 4-5 ]     |                               |                      |
| Tooth                    |                                       | Dysplasia                     | Mild                 |
| * Uterus                 | Endometrium                           | Hyperplasia                   | Cystic, Mild         |

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 706

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57375

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * 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          | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                           |               |                               |                    |
|---------------------------|---------------|-------------------------------|--------------------|
| * Adrenal Medulla         |               | Hyperplasia                   | Minimal            |
| * Bone                    |               | Fibro-Osseous Lesion          | Mild               |
| * Heart                   |               | Cardiomyopathy                | Mild               |
| * Kidney                  |               | Lymphoma Malignant            |                    |
|                           |               | Nephropathy                   | Minimal            |
| * Larynx                  | Epiglottis    | Fibrosis                      | Minimal            |
|                           |               | Metaplasia                    | Squamous, Moderate |
| * Liver                   |               | Fatty Change                  | Moderate           |
|                           |               | Lymphoma Malignant            |                    |
| * Lung                    | Bronchiole    | Hyperplasia                   | Minimal            |
|                           |               | Lymphoma Malignant            |                    |
| * Lymph Node, Mandibular  |               | Lymphoma Malignant            |                    |
| * Lymph Node, Mediastinal |               | Lymphoma Malignant            |                    |
| Mesentery                 |               | Lymphoma Malignant            |                    |
| * Nose                    |               | Accumulation, Hyaline Droplet | Moderate           |
| * Ovary                   |               | Angiectasis                   | Moderate           |
|                           |               | Hemorrhage                    | Mild               |
| * Pancreas                |               | Lymphoma Malignant            |                    |
| * Pituitary Gland         | Pars Distalis | Cyst                          | Mild               |
|                           | Pars Distalis | Hyperplasia                   | Mild               |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

---

**ANIMAL ID:** 706

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 100 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57375

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Lymphoma Malignant

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 707

TRT#: 8

SEX: Female

DAY ON TEST: 433

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57376

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Clitoral Gland
- \* Esophagus
- \* Eye
- \* Harderian Gland
- \* Heart
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder
- \* Uterus

MISSING

- Lymph Node
- \* Lymph Node, Mandibular
- \* Parathyroid Gland

AUTO PRECLUDES DIAG.

- \* Gallbladder
- \* Intestine Small, Duodenum
- \* Intestine Small, Ileum
- \* Intestine Small, Jejunum

OBSERVATIONS

- \* Bone
- Fibro-Osseous Lesion
- Minimal
- \* Kidney
- Nephropathy
- Minimal
- \* Larynx
- Metaplasia
- Squamous, Mild
- \* Liver
- Necrosis
- Moderate
- [ Necrosis TGLs = 1-5 ]
- \* Lung
- Bronchiole
- Hyperplasia
- Minimal
- Thrombosis
- Moderate
- \* Lymph Node, Bronchial
- Infiltration Cellular
- Histiocyte, Mild
- \* Nose
- Accumulation, Hyaline Droplet
- Moderate
- Respirat Epith
- Hyperplasia
- Minimal
- Inflammation
- Suppurative, Marked
- \* Ovary
- [ Inflammation TGLs = 2-8 ]
- \* Thymus
- Necrosis
- Moderate

PRIMARY CAUSE OF DEATH - Liver Necrosis

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 708

TRT#: 8

SEX: Female

DAY ON TEST: 250

DOSE: 100 mg/m3

DISP: Accidentally Killed

HISTO: 57377

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * 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                   | * Lymph Node, Bronchial    | * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Salivary Glands          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | * Uterus                   |                           |                             |

MISSING

- |                  |           |
|------------------|-----------|
| * Clitoral Gland | Mesentery |
|------------------|-----------|

OBSERVATIONS

- |                          |          |                               |                       |
|--------------------------|----------|-------------------------------|-----------------------|
| Blood Vessel             | Aorta    | Embolus Bacterial             | Moderate              |
|                          | Aorta    | Inflammation                  | Suppurative, Moderate |
| * Bone                   | Vertebra | Fracture                      | Marked                |
| [ Fracture TGLs = 1-12 ] |          |                               |                       |
| * Heart                  |          | Necrosis                      | Moderate              |
| * Kidney                 |          | Inflammation                  | Suppurative, Mild     |
| * Larynx                 |          | Metaplasia                    | Squamous, Moderate    |
| * Nose                   |          | Accumulation, Hyaline Droplet | Moderate              |
| * Ovary                  |          | Cyst                          | Minimal               |
| * Thymus                 |          | Atrophy                       | Moderate              |

PRIMARY CAUSE OF DEATH - Heart Necrosis

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 709

TRT#: 8

SEX: Female

DAY ON TEST: 536

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57378

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                     | * Lymph Node, Bronchial  |
| * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Mammary Gland             | * Ovary                  |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Salivary Glands        |
| * Skin                     | Spinal Cord               | * Spleen                    | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- |                  |                 |                               |                      |
|------------------|-----------------|-------------------------------|----------------------|
| * Kidney         |                 | Nephropathy                   | Mild                 |
| * Larynx         | Epiglottis      | Fibrosis                      | Minimal              |
|                  |                 | Metaplasia                    | Squamous, Marked     |
|                  |                 | Necrosis                      | Mild                 |
| * Lung           | Bronchiole      | Hyperplasia                   | Minimal              |
|                  | Interstitialium | Inflammation                  | Chronic Active, Mild |
| * Nose           |                 | Accumulation, Hyaline Droplet | Moderate             |
|                  | Respirat Epith  | Hyperplasia                   | Mild                 |
| Peripheral Nerve |                 | Degeneration                  | Mild                 |
| Skeletal Muscle  |                 | Degeneration                  | Mild                 |
| * Uterus         |                 | Dilatation                    | Moderate             |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 710

TRT#: 8

SEX: Female

DAY ON TEST: 644

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57379

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Clitoral Gland
- \* Esophagus
- \* Eye
- \* Gallbladder
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Intestine Small, Duodenum
- \* Intestine Small, Ileum
- \* Islets, Pancreatic
- \* Liver
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

AUTO PRECLUDES DIAG.

- \* Intestine Small, Jejunum
- \* Spleen

OBSERVATIONS

- |                   |                           |                                |                         |
|-------------------|---------------------------|--------------------------------|-------------------------|
| * Bone            |                           | Fibro-Osseous Lesion           | Minimal                 |
| * Harderian Gland |                           | Adenoma                        |                         |
|                   | [ Adenoma TGLs = 2-11 ]   |                                |                         |
| * Heart           |                           | Congestion                     | Mild                    |
|                   | [ Congestion TGLs = 1-5 ] |                                |                         |
| * Kidney          |                           | Nephropathy                    | Minimal                 |
| * Larynx          | Epiglottis                | Fibrosis                       | Minimal                 |
|                   |                           | Metaplasia                     | Squamous, Moderate      |
| * Lung            |                           | Alveolar/Bronchiolar Carcinoma |                         |
|                   | Bronchiole                | Hyperplasia                    | Minimal                 |
|                   | Perivascular              | Inflammation                   | Chronic Active, Minimal |
| * Nose            |                           | Accumulation, Hyaline Droplet  | Moderate                |
|                   | Respirat Epith            | Hyperplasia                    | Mild                    |
|                   |                           | Inflammation                   | Suppurative, Minimal    |
| * Ovary           |                           | Hemorrhage                     | Minimal                 |
| * Pituitary Gland | Pars Distalis             | Hyperplasia                    | Marked                  |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

---

**ANIMAL ID:** 710

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 644

**DOSE:** 100 mg/m3

**DISP:** Natural Death

**HISTO:** 57379

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Endometrium

Hyperplasia

Cystic, Minimal

---

PRIMARY CAUSE OF DEATH

- UNCERTAIN

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 711

TRT#: 8

SEX: Female

DAY ON TEST: 536

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57380

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Mammary Gland
- \* Stomach, Glandular
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Parathyroid Gland
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Salivary Glands
- \* Trachea
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Skin
- \* Uterus

OBSERVATIONS

- \* Adrenal Cortex  
[ Lymphoma Malignant TGLs = 3-3 ]
  - \* Adrenal Medulla
  - \* Kidney  
[ Lymphoma Malignant TGLs = 12-6 ]
  - \* Larynx  
Epiglottis
  - \* Liver  
[ Lymphoma Malignant TGLs = 2-12+13+14+15; 14-13, 15-12, 16-14, 17-15 ]
  - \* Lung  
Lymph Node  
Deep Cervical  
Lumbar  
Pancreatic  
[ Lymphoma Malignant TGLs = 11-6 ]  
[ Lymphoma Malignant TGLs = 8-17, 9-18 ]
  - \* Lymph Node, Bronchial
  - \* Lymph Node, Mandibular
  - \* Lymph Node, Mediastinal
  - \* Lymph Node, Mesenteric
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Nephropathy
- Mild
- Fibrosis
- Inflammation
- Metaplasia
- Necrosis
- Lymphoma Malignant
- Necrosis
- Mild
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 711

TRT#: 8

SEX: Female

DAY ON TEST: 536

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57380

ORGAN AND ACCOUNTABLE SITE STATUS

[ Lymphoma Malignant TGLs = 10-16 ]

Mesentery

Lymphoma Malignant

\* Nose

Accumulation, Hyaline Droplet

Moderate

\* Ovary

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 5-8 ]

\* Pancreas

Acinus

Hyperplasia

Mild

\* Pituitary Gland

Pars Distalis

Hyperplasia

Marked

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 1-5 ]

\* Stomach, Forestomach

Hyperplasia

Squamous, Moderate

\* Thymus

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 7-3 ]

\* Urinary Bladder

Lymphoma Malignant

PRIMARY CAUSE OF DEATH

- Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 712

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57381

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                            |                           |                             |
|---------------------------|----------------------------|---------------------------|-----------------------------|
| * 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, Bronchial     |
| * Lymph Node, Mediastinal | * Mammary Gland            | * Ovary                   | * Pancreas                  |
| * Salivary Glands         | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular      | * Thymus                   | * Thyroid Gland           | * Urinary Bladder           |

MISSING

- |                          |                          |                     |
|--------------------------|--------------------------|---------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Parathyroid Gland |
|--------------------------|--------------------------|---------------------|

OBSERVATIONS

- |                   |                       |                               |                      |
|-------------------|-----------------------|-------------------------------|----------------------|
| * Adrenal Cortex  |                       | Hyperplasia                   | Mild                 |
| * Adrenal Medulla |                       | Hyperplasia                   | Minimal              |
| * Bone            |                       | Fibro-Osseous Lesion          | Minimal              |
| * Kidney          |                       | Nephropathy                   | Minimal              |
| * Larynx          | Epiglottis            | Fibrosis                      | Minimal              |
|                   |                       | Metaplasia                    | Squamous, Marked     |
| * Liver           |                       | Tension Lipidosis             |                      |
| * Lung            | Bronchiole            | Hyperplasia                   | Minimal              |
|                   | Perivascular          | Inflammation                  | Chronic Active, Mild |
| * Nose            |                       | Accumulation, Hyaline Droplet | Moderate             |
|                   | Glands, Olfactory Epi | Hyperplasia                   | Mild                 |
|                   |                       | Inflammation                  | Suppurative, Mild    |
| * Pituitary Gland | Pars Distalis         | Hyperplasia                   | Mild                 |
| * Trachea         |                       | Metaplasia                    | Squamous, Minimal    |
| * Uterus          | Endometrium           | Hyperplasia                   | Cystic, Moderate     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 713

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57382

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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                     | * Lymph Node, Bronchial  |
| * Lymph Node, Mandibular   | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Stomach, Forestomach     | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

OBSERVATIONS

- |                      |               |                               |                      |
|----------------------|---------------|-------------------------------|----------------------|
| * Kidney             |               | Nephropathy                   | Mild                 |
| * Larynx             |               | Metaplasia                    | Squamous, Moderate   |
| * Lung               | Bronchiole    | Hyperplasia                   | Minimal              |
| * Nose               |               | Accumulation, Hyaline Droplet | Moderate             |
| * Pituitary Gland    | Pars Distalis | Hyperplasia                   | Minimal              |
| * Skin               |               | Infiltration Cellular         | Mast Cell, Minimal   |
|                      |               | Inflammation                  | Chronic Active, Mild |
| * Spleen             |               | Infiltration Cellular         | Mast Cell, Moderate  |
| * Stomach, Glandular | Glands        | Mineralization                | Minimal              |
| * Uterus             | Endometrium   | Hyperplasia                   | Cystic, Moderate     |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 714

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57383

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Liver
- \* Lung
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Urinary Bladder

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |           |                     |                               |                    |
|-----------|---------------------|-------------------------------|--------------------|
| * Bone    |                     | Fibro-Osseous Lesion          | Mild               |
| * Heart   |                     | Cardiomyopathy                | Mild               |
| * Kidney  |                     | Nephropathy                   | Mild               |
| * Larynx  | Epiglottis          | Fibrosis                      | Minimal            |
|           |                     | Metaplasia                    | Squamous, Moderate |
| * Nose    |                     | Accumulation, Hyaline Droplet | Moderate           |
|           | Respirat Epith      | Hyperplasia                   | Minimal            |
| * Ovary   |                     | Cyst                          | Mild               |
|           |                     | Hemorrhage                    | Minimal            |
|           | [ Cyst TGLs = 1-8 ] |                               |                    |
| * Trachea |                     | Metaplasia                    | Squamous, Minimal  |
| * Uterus  | Endometrium         | Hyperplasia                   | Cystic, Mild       |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 715

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57384

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Clitoral Gland

OBSERVATIONS

- |   |  |  |   |
|---|--|--|---|
| <ul style="list-style-type: none"> <li>* Kidney</li> <li>* Larynx</li> <li>* Liver</li> </ul> | <ul style="list-style-type: none"> <li>[ Hemangiosarcoma TGLs = 2-12 ]</li> </ul>  | <ul style="list-style-type: none"> <li>Nephropathy</li> <li>Metaplasia</li> <li>Hemangiosarcoma</li> </ul> | <ul style="list-style-type: none"> <li>Minimal</li> <li>Squamous, Moderate</li> </ul>       |
| <ul style="list-style-type: none"> <li>* Lung</li> <li>* Nose</li> </ul>                      | <ul style="list-style-type: none"> <li>Bronchiole</li> </ul>   | <ul style="list-style-type: none"> <li>Hyperplasia</li> <li>Accumulation, Hyaline Droplet</li> </ul>       | <ul style="list-style-type: none"> <li>Minimal</li> <li>Moderate</li> </ul>                 |
| <ul style="list-style-type: none"> <li>* Pituitary Gland</li> </ul>                           | <ul style="list-style-type: none"> <li>Respirat Epith</li> <li>Pars Distalis</li> </ul>  | <ul style="list-style-type: none"> <li>Hyperplasia</li> <li>Angiectasis</li> <li>Hyperplasia</li> </ul>    | <ul style="list-style-type: none"> <li>Minimal</li> <li>Moderate</li> <li>Marked</li> </ul> |
| <ul style="list-style-type: none"> <li>* Uterus</li> </ul>                                    | <ul style="list-style-type: none"> <li>[ Hyperplasia TGLs = 1-9 ]</li> <li>Endometrium</li> <li>[ Dilatation TGLs = 3-9 ]</li> </ul> | <ul style="list-style-type: none"> <li>Dilatation</li> <li>Hyperplasia</li> </ul>                          | <ul style="list-style-type: none"> <li>Moderate</li> <li>Cystic, Marked</li> </ul>          |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 716

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57385

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                            |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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                     | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Pancreas                  | * Pituitary Gland         | * Salivary Glands          |
| * Skin                    | * Spleen                    | * Stomach, Forestomach    | * Stomach, Glandular       |
| * Thymus                  | * Thyroid Gland             | * Trachea                 | * Urinary Bladder          |

MISSING

- |                         |                          |                     |
|-------------------------|--------------------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Parathyroid Gland |
|-------------------------|--------------------------|---------------------|

OBSERVATIONS

- |          |                |                               |                         |
|----------|----------------|-------------------------------|-------------------------|
| * Bone   |                | Fibro-Osseous Lesion          | Mild                    |
| * Kidney |                | Metaplasia                    | Osseous, Minimal        |
|          |                | Nephropathy                   | Minimal                 |
| * Larynx |                | Metaplasia                    | Squamous, Marked        |
| * Lung   | Bronchiole     | Hyperplasia                   | Minimal                 |
| * Nose   |                | Accumulation, Hyaline Droplet | Moderate                |
|          | Respirat Epith | Hyperplasia                   | Minimal                 |
| * Ovary  |                | Cyst                          | Minimal                 |
| * Uterus | Endometrium    | Hyperplasia                   | Cystic, Moderate        |
|          |                | Inflammation                  | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 717

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57386

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * 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, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Mammary Gland             | * Pancreas               | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

OBSERVATIONS

- |                   |  |                               |                  |
|-------------------|--|-------------------------------|------------------|
| * Heart           |  | Cardiomyopathy                | Mild             |
| * Kidney          |  | Nephropathy                   | Mild             |
| * Larynx          | Epiglottis                             | Fibrosis                      | Minimal          |
|                   |  | Metaplasia                    | Squamous, Marked |
| * Liver           | [ Hepatocellular Adenoma TGLs = 1-12 ] | Hepatocellular Adenoma        |                  |
| * Lung            | Bronchiole                             | Hyperplasia                   | Minimal          |
| * Nose            |  | Accumulation, Hyaline Droplet | Moderate         |
|                   | Respirat Epith                         | Hyperplasia                   | Minimal          |
| * Ovary           |  | Hemorrhage                    | Minimal          |
| * Pituitary Gland | Pars Distalis                          | Hyperplasia                   | Minimal          |
| * Uterus          | Endometrium                            | Hyperplasia                   | Cystic, Minimal  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 718

TRT#: 8

SEX: Female

DAY ON TEST: 691

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57387

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Liver
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Trachea
- \* Urinary Bladder
- \* Uterus

MISSING

- \* Lymph Node, Mediastinal
- \* Parathyroid Gland

OBSERVATIONS

- \* Brain
- Compression
- Moderate
- \* Kidney
- Nephropathy
- Mild
- \* Larynx
- Epiglottis
- Fibrosis
- Minimal
- Inflammation
- Chronic Active, Minimal
- Metaplasia
- Squamous, Moderate
- \* Lung
- Bronchiole
- Hyperplasia
- Minimal
- \* Nose
- Accumulation, Hyaline Droplet
- Moderate
- Respirat Epith
- Hyperplasia
- Minimal
- Glands, Olfactory Epi
- Hyperplasia
- Mild
- \* Pituitary Gland
- Pars Distalis
- Adenoma
- [ Adenoma TGLs = 1-9 ]
- \* Thyroid Gland
- Follicular Cel
- Hyperplasia
- Moderate

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 719

TRT#: 8

SEX: Female

DAY ON TEST: 712

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57388

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Salivary Glands
- \* Stomach, Glandular
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Skin
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Ovary
- \* Spleen
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Pancreas
- \* Stomach, Forestomach

MISSING

- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Kidney
  - \* Larynx
  - \* Lung
  - \* Lymph Node, Mediastinal
  - \* Mammary Gland
    - [ Carcinoma TGLs = 4-13 ]
  - Mesentery
    - [ Necrosis TGLs = 3-12 ]
  - \* Nose
  - \* Pituitary Gland
    - [ Adenoma TGLs = 1-9 ]
  - \* Thyroid Gland
  - \* Uterus
    - [ Dilatation TGLs = 2-9 ]
- Epiglottis
  - Fat
  - Respirat Epith  
Pars Distalis
  - Follicular Cel
- Nephropathy
  - Fibrosis
  - Metaplasia
  - Alveolar/Bronchiolar Adenoma
  - Carcinoma
  - Hyperplasia
  - Carcinoma
  - Necrosis
  - Accumulation, Hyaline Droplet
  - Hyperplasia
  - Adenoma
  - Carcinoma
  - Dilatation
- Mild
  - Minimal
  - Squamous, Marked
  - Metastatic (Mammary Gland)
  - Lymphoid, Moderate
  - Minimal
  - Moderate
  - Mild
  - Marked

PRIMARY CAUSE OF DEATH - Mammary Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 720

TRT#: 8

SEX: Female

DAY ON TEST: 713

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57389

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Salivary Glands
- \* Spleen
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- \* Liver Metaplasia Squamous, Moderate
- Angiectasis Mild
- Hepatocellular Adenoma Tension Lipidosis Mild
- [ Hepatocellular Adenoma TGLs = 3-12 ]
- \* Lung Bronchiole Hyperplasia Minimal
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Mild
- Glands, Olfactory Epi Hyperplasia Mild
- \* Ovary Cyst Minimal
- \* Pituitary Gland Pars Distalis Hyperplasia Minimal
- \* Skin Fibrosarcoma TGLs = 2-13 ]
- \* Stomach, Forestomach Ulcer Minimal
- \* Uterus Endometrium Hyperplasia Cystic, Mild
- [ Hyperplasia TGLs = 5-9 ]

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 720

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 713

**DOSE:** 100 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57389

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Skin Fibrosarcoma

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 721

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57390

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

OBSERVATIONS

- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- \* Larynx Metaplasia Squamous, Moderate
- \* Liver Eosinophilic Focus Eosinophilic Focus
- \* Lung [ Eosinophilic Focus TGLs = 3-6 ] Hyperplasia Minimal
- \* Nose Bronchiole Accumulation, Hyaline Droplet Moderate
- \* Pituitary Gland Respirat Epith Hyperplasia Minimal
- \* Pituitary Gland Glands, Olfactory Epi Hyperplasia Minimal
- \* Pituitary Gland Respirat Epith Metaplasia Squamous, Minimal
- \* Pituitary Gland Pars Distalis Adenoma
- \* Pituitary Gland [ Adenoma TGLs = 1-9 ] Angiectasis Moderate
- \* Uterus Endometrium Hyperplasia Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 722

TRT#: 8

SEX: Female

DAY ON TEST: 563

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57391

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Skin
- \* Thymus
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Bronchial
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

OBSERVATIONS

- \* Kidney
- \* Larynx
- \* Lung
- [ Congestion TGLs = 1-4 ]
- \* Nose
- \* Uterus
- [ Hemorrhage TGLs = 3-9 ]
- [ Hyperplasia TGLs = 2-9 ]
- Nephropathy
- Fibrosis
- Metaplasia
- Necrosis
- Congestion
- Hyperplasia
- Epiglottis
- Bronchiole
- Glands, Olfactory Epi
- Olfactory Epi
- Endometrium
- Accumulation, Hyaline Droplet
- Hyperplasia
- Metaplasia
- Hemorrhage
- Hyperplasia
- Mild
- Minimal
- Squamous, Marked
- Minimal
- Moderate
- Minimal
- Moderate
- Minimal
- Respiratory, Minimal
- Mild
- Cystic, Mild

PRIMARY CAUSE OF DEATH - UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 723

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57392

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                           |                            |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * 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      | * Lymph Node, Mandibular    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Ovary                     | * Pancreas                | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Spleen                  | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Thyroid Gland           | * Trachea                  |
| * Urinary Bladder         |                             |                           |                            |

MISSING

- |               |                         |
|---------------|-------------------------|
| * Gallbladder | * Lymph Node, Bronchial |
|---------------|-------------------------|

OBSERVATIONS

- |                   |                |                               |                    |
|-------------------|----------------|-------------------------------|--------------------|
| * Kidney          |                | Nephropathy                   | Minimal            |
| * Larynx          | Epiglottis     | Fibrosis                      | Minimal            |
|                   |                | Metaplasia                    | Squamous, Moderate |
| * Liver           |                | Eosinophilic Focus            |                    |
| * Lung            | Bronchiole     | Hyperplasia                   | Minimal            |
| * Nose            |                | Accumulation, Hyaline Droplet | Moderate           |
|                   | Respirat Epith | Hyperplasia                   | Minimal            |
| * Pituitary Gland | Pars Distalis  | Hyperplasia                   | Moderate           |
| * Uterus          |                | Dilatation                    | Moderate           |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 724

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57393

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Mammary Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Gallbladder
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Stomach, Glandular
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Salivary Glands
- \* Thymus
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Skin
- \* Trachea

MISSING

- \* Lymph Node, Mandibular
- \* Parathyroid Gland

OBSERVATIONS

- \* Adrenal Cortex
- \* Bone
- \* Brain
- \* Heart
- \* Kidney
- \* Larynx
- \* Liver
- [ Basophilic Focus TGLs = 4-12 ]
- \* Lung
- Perivascular
- [ Alveolar/Bronchiolar Carcinoma TGLs = 9-4 ]
- [ Infiltration Cellular TGLs = 10-4 ]
- Lymph Node
- Renal
- Lumbar
- [ Hemangiosarcoma TGLs = 7-6 ]
- [ Hyperplasia TGLs = 8-12 ]
- \* Lymph Node, Mediastinal
- Vacuolization Cytoplasmic
- Fibro-Osseous Lesion
- Inflammation
- Inflammation
- Cardiomyopathy
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Alveolar/Bronchiolar Carcinoma
- Infiltration Cellular
- Inflammation
- Hemangiosarcoma
- Hyperplasia
- Hyperplasia
- Marked
- Mild
- Chronic Active, Moderate
- Chronic Active, Minimal
- Mild
- Minimal
- Minimal
- Squamous, Marked
- Histiocyte, Mild
- Chronic Active, Minimal
- Lymphoid, Minimal
- Lymphoid, Minimal

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 724

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57393

ORGAN AND ACCOUNTABLE SITE STATUS

	[ Hyperplasia TGLs = 12-3 ]			
Mesentery		Fat	Necrosis	Mild
	[ Necrosis TGLs = 5-13 ]			
* Nose			Accumulation, Hyaline Droplet	Moderate
		Respirat Epith	Hyperplasia	Mild
		Glands, Olfactory Epi	Hyperplasia	Mild
			Inflammation	Chronic Active, Minimal
* Ovary			Cyst	Mild
			Hemorrhage	Minimal
	[ Cyst TGLs = 6-8 ]			
* Pituitary Gland		Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-9 ]			
* Spleen			Hematopoietic Cell Proliferation	Mild
	[ Hematopoietic Cell Proliferation TGLs = 3-5 ]			
* Thyroid Gland		Follicular Cel	Carcinoma	
	[ Carcinoma TGLs = 1-3 ]			
Tooth			Dysplasia	Minimal
* Uterus		Endometrium	Hyperplasia	Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 725

TRT#: 8

SEX: Female

DAY ON TEST: 574

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57394

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Salivary Glands
- \* Thyroid Gland
- \* Bone Marrow
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Mammary Gland
- \* Skin
- \* Trachea
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Clitoral Gland
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Uterus

MISSING

- \* Gallbladder
- \* Islets, Pancreatic

OBSERVATIONS

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Eye
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- Lymph Node
- [ Lymphoma Malignant TGLs = 5-6 ]
- [ Lymphoma Malignant TGLs = 2-5 ]
- [ Lymphoma Malignant TGLs = 4-12 ]
- [ Lymphoma Malignant TGLs = 6-6 ]
- [ Lymphoma Malignant TGLs = 7-3 ]
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- [ Lymphoma Malignant TGLs = 1-4 ]
- \* Lymph Node, Mesenteric
- Lens
- Pancreatic
- Lumbar
- Axillary
- Lymphoma Malignant
- Lymphoma Malignant
- Degeneration
- Lymphoma Malignant
- Fibrosis
- Metaplasia
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Mild
- Minimal
- Squamous, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 725

TRT#: 8

SEX: Female

DAY ON TEST: 574

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57394

ORGAN AND ACCOUNTABLE SITE STATUS

[ Lymphoma Malignant TGLs = 8-7 ]

* Nose	Accumulation, Hyaline Droplet	Moderate
* Ovary	Lymphoma Malignant	
* Pancreas	Lymphoma Malignant	
* Spleen	Lymphoma Malignant	

[ Lymphoma Malignant TGLs = 3-12 ]

* Thymus	Lymphoma Malignant	
----------	--------------------	--

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 726

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57395

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Salivary Glands

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Lymphoma Malignant Nephropathy Marked
- [ Lymphoma Malignant TGLs = 2-6 ]
- \* Larynx Epiglottis Fibrosis Minimal
- Metaplasia Squamous, Marked
- \* Lung Bronchiole Hyperplasia Minimal
- Lymph Node Renal Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 3-12 ]
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Mild
- \* Ovary Lymphoma Malignant
- \* Pituitary Gland Pars Distalis Hyperplasia Mild
- \* Spleen Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 1-5 ]
- \* Uterus Endometrium Hyperplasia Cystic, Minimal
- Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 727

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57396

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- \* Lung Inflammation Chronic Active, Minimal
- Metaplasia Squamous, Marked
- Alveolar/Bronchiolar Adenoma
- Bronchiole Hyperplasia Minimal
- [ Alveolar/Bronchiolar Adenoma TGLs = 1-4 ]
- Mesentery Vein Inflammation Chronic Active, Moderate
- [ Inflammation TGLs = 3-6 ]
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Mild
- Glands, Olfactory Epi Hyperplasia Mild
- \* Ovary Angiectasis Marked
- Mineralization Moderate
- [ Angiectasis TGLs = 2-8 ]
- \* Uterus Endometrium Hyperplasia Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 728

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57397

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Pituitary Gland
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Salivary Glands
- \* Thyroid Gland
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Adrenal Medulla
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- Lymph Node
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- Epiglottis
- Bronchiole
- Renal
- Pancreatic
- Iliac
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Basophilic Focus
- Eosinophilic Focus
- Histiocytic Sarcoma
- Alveolar/Bronchiolar Adenoma
- Hyperplasia
- Histiocytic Sarcoma
- Histiocytic Sarcoma
- Histiocytic Sarcoma
- Histiocytic Sarcoma
- Histiocytic Sarcoma
- Marked
- Minimal
- Minimal
- Squamous, Moderate
- Minimal

[ Basophilic Focus TGLs = 9-12 ]

[ Eosinophilic Focus TGLs = 5-6 ]

[ Histiocytic Sarcoma TGLs = 6-15 ]

[ Histiocytic Sarcoma TGLs = 4-14 ]

[ Histiocytic Sarcoma TGLs = 7-12 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 728

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57397

ORGAN AND ACCOUNTABLE SITE STATUS

* Nose	[ Histiocytic Sarcoma TGLs = 8-13 ]	Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
* Ovary	Glands, Olfactory Epi	Hyperplasia	Minimal
		Cyst	Marked
		Hemorrhage	Minimal
* Skin	[ Cyst TGLs = 2-8 ]	Ulcer	Moderate
* Spleen	[ Ulcer TGLs = 1-13 ]	Hematopoietic Cell Proliferation	Moderate
		Histiocytic Sarcoma	
* Uterus	[ Hematopoietic Cell Proliferation TGLs = 3-5 ]	Hyperplasia	Cystic, Minimal
	Endometrium		

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 729

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57398

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone Marrow             | * 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      | * Lymph Node, Mediastinal   |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Pancreas                | * Salivary Glands           |
| * Skin                   | * Spleen                   | * Stomach, Glandular      | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |                             |

MISSING

- |                         |                          |                     |
|-------------------------|--------------------------|---------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Parathyroid Gland |
|-------------------------|--------------------------|---------------------|

OBSERVATIONS

- |                   |  |                                |                          |
|-------------------|--|--------------------------------|--------------------------|
| * Bone            |  | Fibro-Osseous Lesion           | Minimal                  |
| * Eye             | Cornea   | Inflammation                   | Chronic Active, Moderate |
|                   | [ Inflammation TGLs = 1-11 ]                   |                                |                          |
| * Harderian Gland |  | Carcinoma                      |                          |
|                   | [ Carcinoma TGLs = 2-11 ]                      |                                |                          |
| * Kidney          |  | Nephropathy                    | Minimal                  |
| * Larynx          | Epiglottis                                     | Fibrosis                       | Minimal                  |
|                   |  | Metaplasia                     | Squamous, Moderate       |
| * Liver           |  | Cyst                           | Marked                   |
|                   |  | Hepatocellular Adenoma         |                          |
|                   | [ Cyst TGLs = 5-13 ]                           |                                |                          |
| * Lung            |  | Alveolar/Bronchiolar Carcinoma |                          |
|                   | Bronchiole                                     | Hyperplasia                    | Minimal                  |
|                   | Perivascular                                   | Inflammation                   | Chronic Active, Mild     |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 3-12 ] |                                |                          |
| Lymph Node        |  | Ectasia                        | Marked                   |
|                   | [ Ectasia TGLs = 6-8 ]                         |                                |                          |
| * Nose            |  | Accumulation, Hyaline Droplet  | Moderate                 |
|                   | Respirat Epith                                 | Hyperplasia                    | Mild                     |
|                   | Glands, Olfactory Epi                          | Hyperplasia                    | Minimal                  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 729

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57398

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Ovary		Hemorrhage	Minimal
* Pituitary Gland	Pars Intermed, Pars Nervosa	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
	[ Cyst TGLs = 4-9 ]		
* Stomach, Forestomach		Hyperplasia	Squamous, Marked
* Uterus	Endometrium	Hyperplasia	Cystic, Mild



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 730

TRT#: 8

SEX: Female

DAY ON TEST: 663

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57399

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Mammary Gland
- \* Parathyroid Gland
- \* Pituitary Gland
- \* Skin
- \* Thyroid Gland
- \* Uterus

MISSING

- \* Clitoral Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Bone Marrow Lymphoma Malignant
- \* Kidney Lymphoma Malignant
- \* Larynx Epiglottis Nephropathy Mild
- \* Liver Fibrosis Minimal
- \* Lung Inflammation Chronic Active, Moderate
- Lymph Node Metaplasia Squamous, Moderate
- Renal Lymphoma Malignant
- Lumbar Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 9-14 ]
- [ Lymphoma Malignant TGLs = 8-13 ]
- \* Lymph Node, Bronchial Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 3-4 ]
- \* Lymph Node, Mandibular Lymphoma Malignant
- \* Lymph Node, Mediastinal Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 4-3 ]
- \* Lymph Node, Mesenteric Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 5-12 ]
- \* Nose Accumulation, Hyaline Droplet Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 730

TRT#: 8

SEX: Female

DAY ON TEST: 663

DOSE: 100 mg/m3

DISP: Natural Death

HISTO: 57399

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Hyperplasia	Minimal
* Ovary		Lymphoma Malignant	
* Pancreas		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 10-7 ]		
* Salivary Glands		Lymphoma Malignant	
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 6-5 ]		
* Stomach, Forestomach		Inflammation	Chronic Active, Mild
* Stomach, Glandular		Ulcer	Minimal
* Thymus		Lymphoma Malignant	
* Trachea		Metaplasia	Squamous, Minimal
* Urinary Bladder		Lymphoma Malignant	

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 731

TRT#: 8

SEX: Female

DAY ON TEST: 688

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57400

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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 | * Mammary Gland           |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            | * Urinary Bladder         |

MISSING

- \* Thymus

OBSERVATIONS

- |                          |                                     |                    |                  |
|--------------------------|-------------------------------------|--------------------|------------------|
| * Adrenal Cortex         |                                     | Atrophy            | Mild             |
| * Brain                  |                                     | Compression        | Moderate         |
| * Islets, Pancreatic     |                                     | Adenoma            |                  |
| * Kidney                 |                                     | Nephropathy        | Moderate         |
| * Larynx                 | Epiglottis                          | Fibrosis           | Minimal          |
|                          |                                     | Metaplasia         | Squamous, Marked |
| * Liver                  |                                     | Eosinophilic Focus |                  |
|                          |                                     | Lymphoma Malignant |                  |
|                          | [ Eosinophilic Focus TGLs = 5-5 ]   |                    |                  |
| * Lung                   | Bronchiole                          | Hyperplasia        | Minimal          |
| Lymph Node               | Deep Cervical                       | Lymphoma Malignant |                  |
|                          | Lumbar                              | Lymphoma Malignant |                  |
|                          | Renal                               | Lymphoma Malignant |                  |
|                          | Pancreatic                          | Lymphoma Malignant |                  |
|                          | [ Lymphoma Malignant TGLs = 3-14 ]  |                    |                  |
|                          | [ Lymphoma Malignant TGLs = 8-16 ]  |                    |                  |
|                          | [ Lymphoma Malignant TGLs = 7-15 ]  |                    |                  |
|                          | [ Lymphoma Malignant TGLs = 10-17 ] |                    |                  |
| * Lymph Node, Bronchial  |                                     | Lymphoma Malignant |                  |
| * Lymph Node, Mandibular |                                     | Lymphoma Malignant |                  |
|                          | [ Lymphoma Malignant TGLs = 1-13 ]  |                    |                  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 731

TRT#: 8

SEX: Female

DAY ON TEST: 688

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57400

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 2-3 ]		
* Lymph Node, Mesenteric		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 9-12 ]		
* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Minimal
* Ovary		Lymphoma Malignant	
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-9 ]		
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 6-5 ]		
* Trachea		Metaplasia	Squamous, Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Mild

PRIMARY CAUSE OF DEATH - Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 732

TRT#: 8

SEX: Female

DAY ON TEST: 669

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57401

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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, Mediastinal  | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Spleen                 | * Stomach, Glandular       | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

- |                         |          |
|-------------------------|----------|
| * Lymph Node, Bronchial | * Thymus |
|-------------------------|----------|

OBSERVATIONS

- |                        |  |                               |                         |
|------------------------|--|-------------------------------|-------------------------|
| * Bone                 |  | Fibro-Osseous Lesion          | Mild                    |
| * Brain                |  | Meningioma Malignant          |                         |
|                        | [ Meningioma Malignant TGLs = 3-1 ]    |                               |                         |
| * Kidney               |  | Nephropathy                   | Mild                    |
| * Larynx               | Epiglottis                             | Fibrosis                      | Minimal                 |
|                        |  | Inflammation                  | Chronic Active, Minimal |
|                        |  | Metaplasia                    | Squamous, Marked        |
| * Liver                |  | Fatty Change                  | Marked                  |
|                        |  | Hepatocellular Adenoma        |                         |
|                        |  | Necrosis                      | Minimal                 |
|                        | [ Fatty Change TGLs = 1-5 ]            |                               |                         |
|                        | [ Hepatocellular Adenoma TGLs = 2-12 ] |                               |                         |
| * Nose                 |  | Accumulation, Hyaline Droplet | Moderate                |
|                        | Respirat Epith                         | Hyperplasia                   | Mild                    |
| * Ovary                |  | Cyst                          | Minimal                 |
| * Pituitary Gland      |  | Meningioma Malignant          | Metastatic (Brain)      |
| * Stomach, Forestomach |  | Squamous Cell Papilloma       |                         |
| * Thyroid Gland        |  | Inflammation                  | Chronic Active, Mild    |
| * Uterus               |  | Inflammation                  | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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**ANIMAL ID:** 732

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 669

**DOSE:** 100 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57401

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Brain Meningioma Malignant

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 733

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57402

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Harderian Gland  
[ Carcinoma TGLs = 1-11 ]
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung  
[ Hemorrhage TGLs = 2-4 ]
- \* Nose
- \* Ovary
- \* Pancreas
- \* Uterus
- Epiglottis
- Bronchiole
- Acinus
- Endometrium
- Carcinoma
- Nephropathy
- Fibrosis
- Metaplasia
- Fatty Change
- Hemorrhage
- Hyperplasia
- Accumulation, Hyaline Droplet
- Hemorrhage
- Hypertrophy
- Hyperplasia
- Minimal
- Minimal
- Squamous, Moderate
- Minimal
- Minimal
- Minimal
- Moderate
- Minimal
- Minimal
- Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 734

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57403

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Pancreas
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mediastinal
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Mild
- \* Larynx Epiglottis Fibrosis Minimal
- \* Liver Metaplasia Squamous, Marked
- Angiectasis Mild
- Eosinophilic Focus
- Hepatocellular Adenoma
- Tension Lipidosis Minimal
- \* Lung [ Eosinophilic Focus TGLs = 4-5 ]
- [ Hepatocellular Adenoma TGLs = 5-6 ]
- Bronchiole Hyperplasia Minimal
- Infiltration Cellular Mixed Cell, Minimal
- Lymph Node Iliac Hyperplasia Plasma Cell, Mild
- [ Hyperplasia TGLs = 6-12 ]
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Minimal
- \* Ovary Cyst Mild
- [ Cyst TGLs = 2-8 ]
- \* Pituitary Gland Angiectasis Moderate

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 734

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57403

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Hyperplasia TGLs = 1-9 ]	Pars Distalis	Hyperplasia	Moderate
* Thyroid Gland	Follicular Cel	Hyperplasia	Mild
* Uterus		Angiectasis	Moderate
[ Inflammation TGLs = 3-9 ]		Inflammation	Suppurative, Moderate

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 735

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57404

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Mammary Gland
- \* Spleen
- \* Trachea
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Stomach, Glandular
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Skin
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

INSUFFICIENT TISSUE

- \* Thymus

OBSERVATIONS

- |                   |                |                               |                          |
|-------------------|----------------|-------------------------------|--------------------------|
| * Adrenal Cortex  |                | Hyperplasia                   | Minimal                  |
| * Bone            |                | Fibro-Osseous Lesion          | Minimal                  |
| * Kidney          |                | Nephropathy                   | Minimal                  |
| * Larynx          | Epiglottis     | Fibrosis                      | Minimal                  |
|                   |                | Metaplasia                    | Squamous, Marked         |
| * Lung            | Bronchiole     | Hyperplasia                   | Minimal                  |
|                   | Perivascular   | Inflammation                  | Chronic Active, Moderate |
| * Nose            |                | Accumulation, Hyaline Droplet | Moderate                 |
|                   | Respirat Epith | Hyperplasia                   | Mild                     |
| * Ovary           |                | Hemorrhage                    | Minimal                  |
| * Pituitary Gland | Pars Distalis  | Hyperplasia                   | Mild                     |
| * Uterus          | Endometrium    | Hyperplasia                   | Cystic, Mild             |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 736

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57405

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Ovary
- \* Skin
- \* Trachea
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mediastinal
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Salivary Glands
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Kidney
  - Lymphoma Malignant
  - Nephropathy
- \* Larynx
  - Epiglottis
  - Fibrosis
  - Metaplasia
- \* Liver
  - Eosinophilic Focus
  - Lymphoma Malignant
  - Tension Lipidosis
- \* Lung
  - [ Eosinophilic Focus TGLs = 2-6 ]
  - Alveolar/Bronchiolar Adenoma
  - Bronchiole
  - Hyperplasia
  - Infiltration Cellular
- \* Lymph Node, Mandibular
  - Lymphoma Malignant
- \* Lymph Node, Mesenteric
  - Lymphoma Malignant
- \* Nose
  - Accumulation, Hyaline Droplet
  - Glands, Olfactory Epi
  - Hyperplasia
  - Inflammation
- \* Spleen
  - Lymphoma Malignant
- \* Thymus
  - Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 736

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57405

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth  
\* Uterus

Inflammation  
Inflammation

Chronic Active, Mild  
Chronic Active, Minimal

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 737

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57406

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Salivary Glands
- \* Thymus
- \* Uterus
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Skin
- \* Thyroid Gland
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Gallbladder
- \* Kidney
- \* Larynx
- \* Liver
- \* Lung
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Mesentery
- \* Nose
- \* Ovary
- Epiglottis
- [ Hepatocellular Adenoma TGLs = 4-12 ]
- Bronchiole
- Alveolar Epith
- Respirat Epith
- Glands, Olfactory Epi
- Lymphoma Malignant
- Nephropathy
- Fibrosis
- Metaplasia
- Hepatocellular Adenoma
- Lymphoma Malignant
- Hyperplasia
- Hyperplasia
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Lymphoma Malignant
- Hyperplasia
- Lymphoma Malignant
- Accumulation, Hyaline Droplet
- Hyperplasia
- Hyperplasia
- Angiectasis
- Thrombosis
- Minimal
- Minimal
- Squamous, Moderate
- Minimal
- Mild
- Minimal
- Moderate
- Mild
- Minimal
- Moderate
- Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

---

ANIMAL ID: 737

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57406

---

ORGAN AND ACCOUNTABLE SITE STATUS

---

[ Angiectasis TGLs = 2-8 ]

\* Pancreas

Lymphoma Malignant

\* Pituitary Gland

Pars Distalis

Adenoma

[ Adenoma TGLs = 1-9 ]

\* Spleen

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 3-5 ]

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 738

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57407

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * 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, Bronchial     | * Mammary Gland          | * Pancreas                 | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

- |                          |                     |
|--------------------------|---------------------|
| * Lymph Node, Mandibular | * Parathyroid Gland |
|--------------------------|---------------------|

OBSERVATIONS

- |                           |                                    |                    |                  |
|---------------------------|------------------------------------|--------------------|------------------|
| * Adrenal Cortex          |                                    | Hyperplasia        | Minimal          |
| * Bone                    | Femur, Tibia                       | Arthrosis          | Mild             |
|                           | [ Arthrosis TGLs = 7-10 ]          |                    |                  |
| * Kidney                  |                                    | Nephropathy        | Mild             |
| * Larynx                  | Epiglottis                         | Fibrosis           | Minimal          |
|                           |                                    | Metaplasia         | Squamous, Marked |
| * Liver                   |                                    | Eosinophilic Focus |                  |
|                           | [ Eosinophilic Focus TGLs = 8-6 ]  | Lymphoma Malignant |                  |
| * Lung                    | Bronchiole                         | Hyperplasia        | Minimal          |
| Lymph Node                | Lumbar                             | Lymphoma Malignant |                  |
|                           | Renal                              | Lymphoma Malignant |                  |
|                           | Pancreatic                         | Lymphoma Malignant |                  |
|                           | [ Lymphoma Malignant TGLs = 6-14 ] |                    |                  |
|                           | [ Lymphoma Malignant TGLs = 3-12 ] |                    |                  |
| * Lymph Node, Mediastinal |                                    | Lymphoma Malignant |                  |
| * Lymph Node, Mesenteric  |                                    | Lymphoma Malignant |                  |
|                           | [ Lymphoma Malignant TGLs = 5-13 ] |                    |                  |
| Mesentery                 | Fat                                | Necrosis           | Mild             |
|                           | [ Necrosis TGLs = 4-14 ]           |                    |                  |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 738

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57407

ORGAN AND ACCOUNTABLE SITE STATUS

* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
	Glands, Olfactory Epi	Hyperplasia	Minimal
* Ovary		Cyst	Minimal
		Hemorrhage	Minimal
* Pituitary Gland	Pars Distalis	Lymphoma Malignant	
		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 1-9 ]		
* Spleen		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 2-12 ]		
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 739

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57408

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Skin
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Mild
- \* Larynx Epiglottis Fibrosis Minimal
- Inflammation Chronic Active, Minimal
- Metaplasia Squamous, Marked
- Necrosis Minimal
- \* Liver Fatty Change Mild
- Hepatocellular Adenoma Multiple
- Hepatocellular Carcinoma
- [ Hepatocellular Adenoma TGLs = 2-13, 3-14 ]
- [ Hepatocellular Carcinoma TGLs = 1-12 ]
- \* Lung Bronchiole Hyperplasia Minimal
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Minimal
- Necrosis Minimal
- \* Uterus Endometrium Hyperplasia Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 740

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57409

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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
- \* Mammary Gland
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Minimal
- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- Inflammation Chronic Active, Minimal
- Metaplasia Squamous, Marked
- \* Liver Eosinophilic Focus
- Lymphoma Malignant
- \* Lung Alveolar/Bronchiolar Carcinoma
- Bronchiole Hyperplasia Minimal
- Perivascular Inflammation Chronic Active, Mild
- Lymphoma Malignant
- [ Alveolar/Bronchiolar Carcinoma TGLs = 1-12 ]
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Lymph Node, Mesenteric Lymphoma Malignant
- Mesentery Lymphoma Malignant
- Fat Necrosis Mild
- [ Necrosis TGLs = 2-13 ]
- \* Nose Accumulation, Hyaline Droplet Moderate
- \* Ovary Hemorrhage Minimal
- \* Pancreas Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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**ANIMAL ID:** 740

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 100 mg/m3

**DISP:** Terminal Sacrifice

**HISTO:** 57409

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Spleen		Lymphoma Malignant	
* Thymus		Lymphoma Malignant	
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 741

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57410

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Skin
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Pancreas
- \* Stomach, Forestomach
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Salivary Glands
- \* Trachea

MISSING

- \* Gallbladder
- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Adrenal Cortex
- \* Kidney
- \* Larynx
- \* Liver
- [ Hepatocellular Adenoma TGLs = 4-5, 5-5 ]
- \* Lung
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- [ Adenoma TGLs = 1-12 ]
- \* Nose
- \* Ovary
- \* Pituitary Gland
- [ Adenoma TGLs = 3-9 ]
- \* Spleen
- \* Thymus
- \* Thyroid Gland
- Epiglottis
- Glands, Olfactory Epi
- Pars Distalis
- Follicular Cel
- Vacuolization Cytoplasmic
- Nephropathy
- Fibrosis
- Inflammation
- Metaplasia
- Hepatocellular Adenoma
- Hyperplasia
- Lymphoma Malignant
- Angiectasis
- Adenoma
- Accumulation, Hyaline Droplet
- Hyperplasia
- Cyst
- Adenoma
- Lymphoma Malignant
- Lymphoma Malignant
- Carcinoma
- Marked
- Minimal
- Minimal
- Chronic Active, Minimal
- Squamous, Marked
- Multiple
- Minimal
- Marked
- Moderate
- Mild
- Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 741

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57410

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Carcinoma TGLs = 2-3 ]

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 742

TRT#: 8

SEX: Female

DAY ON TEST: 634

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57411

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone
- \* Bone Marrow
- \* 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, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Peripheral Nerve
- \* Salivary Glands
- \* Skeletal Muscle
- \* Skin
- \* Spinal Cord
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Clitoral Gland
- \* Parathyroid Gland

OBSERVATIONS

- \* Brain
- Compression
- Moderate
- \* Kidney
- Nephropathy
- Minimal
- \* Larynx
- Epiglottis
- Fibrosis
- Minimal
- Metaplasia
- Squamous, Moderate
- \* Liver
- Basophilic Focus
- \* Lung
- Alveolar Epith
- Hyperplasia
- Mild
- Bronchiole
- Hyperplasia
- Minimal
- Mesentery
- Fat
- Necrosis
- Minimal
- [ Necrosis TGLs = 4-13 ]
- \* Nose
- Accumulation, Hyaline Droplet
- Moderate
- Olfactory Epi
- Metaplasia
- Respiratory, Minimal
- Pars Distalis
- \* Pituitary Gland
- Adenoma
- [ Adenoma TGLs = 1-9 ]
- \* Spleen
- Lymphoma Malignant
- [ Lymphoma Malignant TGLs = 3-5, 3-12 ]
- \* Uterus
- Dilatation
- Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 743

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57412

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * 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, Mediastinal   | * 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         |                             |                          |

MISSING

- |                         |                          |
|-------------------------|--------------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular |
|-------------------------|--------------------------|

OBSERVATIONS

- |          |   |                                |                          |
|----------|---|--------------------------------|--------------------------|
| * Kidney |   | Nephropathy                    | Minimal                  |
| * Larynx | Epiglottis  | Fibrosis                       | Minimal                  |
|          |   | Metaplasia                     | Squamous, Moderate       |
| * Liver  |   | Tension Lipidosis              | Minimal                  |
| * Lung   |   | Alveolar/Bronchiolar Carcinoma |                          |
|          | Bronchiole  | Hyperplasia                    | Minimal                  |
|          |   | Infiltration Cellular          | Histiocyte, Mild         |
|          | Perivascular                                      | Inflammation                   | Chronic Active, Moderate |
|          | [ Alveolar/Bronchiolar Carcinoma<br>TGLs = 1-12 ] |                                |                          |
| * Nose   |   | Accumulation, Hyaline Droplet  | Moderate                 |
| * Uterus | Endometrium                                       | Hyperplasia                    | Cystic, Moderate         |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 744

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57413

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder
- \* Adrenal Medulla
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Mammary Gland
- \* Skin
- \* Thymus
- \* Bone Marrow
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Ovary
- \* Spleen
- \* Thyroid Gland
- \* Brain
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Parathyroid Gland

OBSERVATIONS

- \* Bone
- \* Clitoral Gland
- \* Kidney
- \* Larynx
- \* Liver
- [ Eosinophilic Focus TGLs = 4-16 ]
- [ Fatty Change TGLs = 4-16 ]
- [ Hepatocellular Adenoma TGLs = 2-13, 3-14, 5-15, 6-5 ]
- [ Hepatocellular Carcinoma TGLs = 1-12 ]
- \* Lung
- Mesentery
- [ Necrosis TGLs = 8-6 ]
- Fibro-Osseous Lesion
- Hyperplasia
- Nephropathy
- Fibrosis
- Metaplasia
- Eosinophilic Focus
- Fatty Change
- Hepatocellular Adenoma
- Hepatocellular Carcinoma
- Minimal
- Basal Cell, Minimal
- Minimal
- Minimal
- Squamous, Moderate
- Mild
- Multiple
- Minimal
- Minimal
- Histiocyte, Minimal
- Chronic Active, Mild
- Mild

\* PROTOCOL REQUIRED TISSUE



TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 744

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57413

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
	Glands, Olfactory Epi	Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
	[ Hyperplasia TGLs = 7-9 ]		

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 745

TRT#: 8

SEX: Female

DAY ON TEST: 699

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57414

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* 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, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Ovary
- \* Pancreas
- \* Pituitary Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Trachea
- \* Urinary Bladder
- \* Uterus

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- \* Bone Pelvis Degeneration Mild  
Fibro-Osseous Lesion Minimal  
[ Degeneration TGLs = 2-12+13+14 ]
- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal  
Metaplasia Squamous, Marked  
Hepatocellular Adenoma
- \* Liver
- \* Lung Bronchiole Hyperplasia Minimal  
Lymphoma Malignant  
Hemangiosarcoma
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Nose Accumulation, Hyaline Droplet Moderate  
Respirat Epith Hyperplasia Mild  
Glands, Olfactory Epi Hyperplasia Mild  
Inflammation Suppurative, Moderate  
Olfactory Epi Metaplasia Respiratory, Mild  
Ulcer Moderate
- \* Skin [ Ulcer TGLs = 1-15 ]
- \* Spleen Lymphoma Malignant
- \* Thyroid Gland Follicular Cel Hyperplasia Mild

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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**ANIMAL ID:** 745

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 699

**DOSE:** 100 mg/m3

**DISP:** Moribund Sacrifice

**HISTO:** 57414

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Tooth

Dysplasia

Mild

Inflammation

Chronic Active, Mild

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PRIMARY CAUSE OF DEATH

- UNCERTAIN

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 746

TRT#: 8

SEX: Female

DAY ON TEST: 733

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57415

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Liver
- \* Mammary Gland
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Stomach, Glandular
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Thymus
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Skin
- \* Trachea

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland

OBSERVATIONS

- |                   |  |                                |                         |
|-------------------|--|--------------------------------|-------------------------|
| * Adrenal Cortex  |  | Hyperplasia                    | Minimal                 |
| * Bone            |  | Fibro-Osseous Lesion           | Mild                    |
| * Kidney          |  | Nephropathy                    | Minimal                 |
| * Larynx          | Epiglottis                                     | Fibrosis                       | Minimal                 |
|                   |  | Metaplasia                     | Squamous, Moderate      |
| * Lung            |  | Alveolar/Bronchiolar Carcinoma |                         |
|                   | Bronchiole                                     | Hyperplasia                    | Minimal                 |
|                   | Perivascular                                   | Inflammation                   | Chronic Active, Mild    |
|                   | [ Alveolar/Bronchiolar Carcinoma TGLs = 1-12 ] |                                |                         |
| * Nose            |  | Accumulation, Hyaline Droplet  | Moderate                |
|                   | Glands, Olfactory Epi                          | Hyperplasia                    | Mild                    |
| * Ovary           |  | Cyst                           | Minimal                 |
|                   |  | Hemorrhage                     | Minimal                 |
|                   | [ Cyst TGLs = 2-8 ]                            |                                |                         |
| * Pituitary Gland | Pars Distalis                                  | Hyperplasia                    | Minimal                 |
| * Spleen          |  | Hyperplasia                    | Lymphoid, Mild          |
|                   | [ Hyperplasia TGLs = 3-5 ]                     |                                |                         |
| * Thyroid Gland   |  | Inflammation                   | Chronic Active, Minimal |
| * Uterus          | Endometrium                                    | Hyperplasia                    | Cystic, Moderate        |

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 747

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57416

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* Brain
- \* Clitoral Gland
- \* Esophagus
- \* Eye
- \* Harderian Gland
- \* Heart
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Intestine Small, Ileum
- \* Intestine Small, Jejunum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Parathyroid Gland
- \* Salivary Glands
- \* Spleen
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Gallbladder Leiomysarcoma Metastatic (Intestine Small, Duodenum)
  - [ Leiomysarcoma TGLs = 13-5 ]
- \* Intestine Small, Duodenum Leiomysarcoma
  - [ Leiomysarcoma TGLs = 8-7 ]
- \* Kidney Nephropathy Mild
- \* Larynx Epiglottis Fibrosis Minimal
  - Inflammation Chronic Active, Minimal
  - Metaplasia Squamous, Marked
- \* Liver Hepatocellular Adenoma Multiple
  - Hepatocholangiocarcinoma
  - Infiltration Cellular Lymphocyte, Minimal
    - [ Hepatocellular Adenoma TGLs = 9-5, 11-6 ]
    - [ Hepatocholangiocarcinoma TGLs = 10-12 ]
    - [ Infiltration Cellular TGLs = 12-13 ]
- \* Lung Bronchiole Hyperplasia Minimal
  - Perivascular Inflammation Chronic Active, Moderate
- \* Lymph Node, Bronchial Carcinoma Metastatic (Uncertain Primary Site)
  - [ Carcinoma TGLs = 2-4 ]
- \* Lymph Node, Mediastinal Infiltration Cellular Mixed Cell, Moderate

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 747

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57416

ORGAN AND ACCOUNTABLE SITE STATUS

[ Infiltration Cellular TGLs = 3-3 ]			
Mesentery	Fat	Leiomyosarcoma	Metastatic (Intestine Small, Duodenum)
[ Leiomyosarcoma TGLs = 7-16 ]			
* Nose		Accumulation, Hyaline Droplet	Moderate
	Respirat Epith	Hyperplasia	Mild
	Glands, Olfactory Epi	Hyperplasia	Mild
* Ovary		Cyst	Marked
[ Cyst TGLs = 4-14 ]			
* Pancreas		Leiomyosarcoma	Metastatic (Intestine Small, Duodenum)
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Skeletal Muscle		Leiomyosarcoma	Metastatic (Intestine Small, Duodenum)
[ Leiomyosarcoma TGLs = 6-15 ]			
* Skin		Inflammation	Chronic Active, Moderate
* Uterus	Endometrium	Hyperplasia	Cystic, Mild
		Inflammation	Chronic Active, Minimal
[ Hyperplasia TGLs = 5-9 ]			

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 748

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57417

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Adrenal Medulla
- \* Bone Marrow
- \* 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
- \* Lymph Node, Mesenteric
- \* Mammary Gland
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Thymus
- \* Thyroid Gland
- \* Trachea
- \* Urinary Bladder

MISSING

- \* Clitoral Gland
- \* Gallbladder
- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Bone Fibro-Osseous Lesion Mild
- \* Kidney Nephropathy Minimal
- \* Larynx Epiglottis Fibrosis Minimal
- Inflammation Chronic Active, Minimal
- Metaplasia Squamous, Marked
- \* Liver Eosinophilic Focus
- Lymphoma Malignant
- \* Lung Alveolar/Bronchiolar Adenoma
- Alveolar/Bronchiolar Carcinoma
- Bronchiole Hyperplasia Minimal
- [ Alveolar/Bronchiolar Carcinoma TGLs = 2-4 ]
- \* Lymph Node, Mediastinal Lymphoma Malignant
- \* Nose Accumulation, Hyaline Droplet Moderate
- Respirat Epith Hyperplasia Minimal
- Glands, Olfactory Epi Hyperplasia Minimal
- \* Ovary Hemorrhage Minimal
- \* Pancreas Acinus Atrophy Moderate
- Inflammation Chronic Active, Moderate
- \* Pituitary Gland Pars Distalis Hyperplasia Moderate
- \* Spleen Lymphoma Malignant

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 748

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57417

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Endometrium

Hyperplasia

Cystic, Marked

[ Hyperplasia TGLs = 1-9 ]

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TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 749

TRT#: 8

SEX: Female

DAY ON TEST: 688

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57418

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Gallbladder
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Pituitary Gland
- \* Thyroid Gland
- \* Adrenal Medulla
- \* Clitoral Gland
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Salivary Glands
- \* Trachea
- \* Bone
- \* Esophagus
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mediastinal
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Mammary Gland
- \* Stomach, Glandular

MISSING

- \* Lymph Node, Bronchial
- \* Parathyroid Gland
- \* Thymus

OBSERVATIONS

- \* Kidney
  - Glomerulus
    - Amyloid Deposition
    - Nephropathy
  - Mild
- \* Larynx
  - Epiglottis
    - Fibrosis
    - Metaplasia
  - Minimal
- \* Liver
  - Amyloid Deposition
  - Mild
- \* Lung
  - Alveolar/Bronchiolar Carcinoma
    - Alveolar Epith
    - Bronchiole
    - TGLs = 1-12 ]
    - Hyperplasia
    - Hyperplasia
  - Mild
  - Minimal
- \* Lymph Node, Mandibular
  - Lymphoma Malignant
- \* Lymph Node, Mesenteric
  - Lymphoma Malignant
- \* Nose
  - Accumulation, Hyaline Droplet
  - Moderate
  - Respirat Epith
    - Hyperplasia
    - Minimal
  - Glands, Olfactory Epi
    - Hyperplasia
    - Mild
- \* Ovary
  - Lymphoma Malignant
- \* Pancreas
  - Acinus
    - Atrophy
    - Mild
- \* Skin
  - Ulcer
    - TGLs = 5-13 ]
    - Marked
- \* Spleen
  - Lymphoma Malignant
    - TGLs = 2-5 ]

\* PROTOCOL REQUIRED TISSUE

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

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ANIMAL ID: 749

TRT#: 8

SEX: Female

DAY ON TEST: 688

DOSE: 100 mg/m3

DISP: Moribund Sacrifice

HISTO: 57418

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Dilatation

Mild

Inflammation

Chronic Active, Moderate

Lymphoma Malignant

[ Inflammation TGLs = 4-9 ]

[ Lymphoma Malignant TGLs = 3-9 ]

---

PRIMARY CAUSE OF DEATH

- Skin Ulcer

---

TDMS No. 20515 - 04

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Metal working fluids (CIMSTAR 3800)

CAS Number: CIMSTAR3800

Date Report Requested: 01/21/2011

Time Report Requested: 07:50:26

First Dose M/F: 05/05/08 / 05/05/08

Lab: BNW

ANIMAL ID: 750

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 100 mg/m3

DISP: Terminal Sacrifice

HISTO: 57419

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * 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, Mesenteric    | * Mammary Gland          | * Pancreas                 | * Pituitary Gland         |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thyroid Gland             | * Trachea                | * Urinary Bladder          |                           |

MISSING

- |                  |                         |                          |                     |
|------------------|-------------------------|--------------------------|---------------------|
| * Clitoral Gland | * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Parathyroid Gland |
|------------------|-------------------------|--------------------------|---------------------|

OBSERVATIONS

- |  |                |                               |                         |
|--|----------------|-------------------------------|-------------------------|
| * Intestine Large, Cecum<br>[ Leiomyoma TGLs = 1-7 ] |                | Leiomyoma                     |                         |
| * Kidney   |                | Lymphoma Malignant            |                         |
|  |                | Nephropathy                   | Minimal                 |
| * Larynx   | Epiglottis     | Fibrosis                      | Minimal                 |
|  |                | Metaplasia                    | Squamous, Moderate      |
| * Liver  |                | Lymphoma Malignant            |                         |
| * Lung   | Bronchiole     | Hyperplasia                   | Minimal                 |
|  | Perivascular   | Inflammation                  | Chronic Active, Minimal |
| * Lymph Node, Mediastinal                            |                | Lymphoma Malignant            |                         |
| Mesentery  |                | Lymphoma Malignant            |                         |
| * Nose   |                | Accumulation, Hyaline Droplet | Moderate                |
|  | Respirat Epith | Hyperplasia                   | Mild                    |
| * Ovary  |                | Hemorrhage                    | Minimal                 |
| * Spleen   |                | Lymphoma Malignant            |                         |
| * Thymus   |                | Lymphoma Malignant            |                         |
| * Uterus   | Endometrium    | Hyperplasia                   | Cystic, Minimal         |

\* PROTOCOL REQUIRED TISSUE

**TDMS No.** 20515 - 04

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Metal working fluids (CIMSTAR 3800)

**CAS Number:** CIMSTAR3800

**Date Report Requested:** 01/21/2011

**Time Report Requested:** 07:50:26

**First Dose M/F:** 05/05/08 / 05/05/08

**Lab:** BNW

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