

**TDMS No.** 20523 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Metal working fluids (Trim VX)

**CAS Number:** TRIMVX

**Date Report Requested:** 03/24/2011

**Time Report Requested:** 15:32:43

**First Dose M/F:** 07/14/08 / 07/14/08

**Lab:** BNW

F1\_M3

**C Number:** C20523

**Lock Date:** 02/24/2009

**Cage Range:** ALL

**Date Range:** ALL

**Reasons For Removal:** ALL

**Removal Date Range:** ALL

**Treatment Groups:** Include ALL

**Study Gender:** Both

**TDMSE Version:** 2.3.1

**PWG Approval Date:** NONE

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B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
0 mg/m <sup>3</sup>	ANIMAL ID	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

## ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	10

## CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	10
--------------	---	---	---	---	---	---	---	---	---	---	---	----

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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Lab: BNW

B6C3F1 MICE MALE	0 mg/m <sup>3</sup>	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID		9	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5	5
1		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
2		0	0	0	0	0	0	0	0	0	0	0
		1	2	3	4	5	6	7	8	9	0	

\* TOTALS

Heart

+ + + + + + + + + + 10

## ENDOCRINE SYSTEM

Adrenal Cortex

+ + + + + + + + + + 10  
1 X 2 1.5Accessory Adrenal Cortical Nodule  
Subcapsular, Hyperplasia

Adrenal Medulla

+ + + + + + + + + + 10

Islets, Pancreatic

+ + + + + + + + + + 10

Parathyroid Gland

+ M + M M + + M M + 5

Pituitary Gland

+ + + + + + + + + + 10

Thyroid Gland

+ + + + + + + + + + 10

## GENERAL BODY SYSTEM

NONE

## GENITAL SYSTEM

Epididymis + + + + + + + + + + 10

Preputial Gland + + + + + + + + + + 10

Prostate + + + + + + + + + + 10

Seminal Vesicle + + + + + + + + + + 10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

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First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE MALE                  | 0 mg/m <sup>3</sup>   | DAY ON TEST |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |          |
|-----------------------------------|-----------------------|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|----------|
|                                   |                       |             | 0<br>0<br>9<br>5 |          |          |
| ANIMAL ID                         |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          | * TOTALS |
|                                   | 0<br>0<br>0<br>0<br>1 | 2           | 3                | 4                | 5                | 6                | 7                | 8                | 9                | 0                | 3                | 1                | 3.0      |          |
| Testes                            | + + + + + + + + + +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 10       |          |
| Germinal Epithelium, Degeneration |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1 3.0    |          |
| <b>HEMATOPOIETIC SYSTEM</b>       |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |          |
| Bone Marrow                       | + + + + + + + + + +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 10       |          |
| Lymph Node, Bronchial             | + + + M + + + + + M   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 8        |          |
| Lymph Node, Mandibular            | + + + + + + M + M +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 8        |          |
| Lymph Node, Mediastinal           | M M M + + M M + M M   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 3        |          |
| Lymph Node, Mesenteric            | + + + + + + + + + +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 10       |          |
| Spleen                            | + + + + + + + + + +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 10       |          |
| Thymus                            | + + + + + + + + + +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 10       |          |
| <b>INTEGUMENTARY SYSTEM</b>       |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |          |
| Mammary Gland                     | M M M M M M M M M M   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 0        |          |
| Skin                              | + + + + + + + + + +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 10       |          |
| <b>MUSCULOSKELETAL SYSTEM</b>     |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |          |
| Bone                              | + + + + + + + + + +   |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 10       |          |
| <b>NERVOUS SYSTEM</b>             |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |          |

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

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Lab: BNW

| B6C3F1 MICE MALE             | DAY ON TEST |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|------------------------------|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|                              |             | 0<br>0<br>9<br>5 |          |
| 0 mg/m <sup>3</sup>          | ANIMAL ID   | 0<br>0<br>0<br>0 | * TOTALS |
|                              |             | 1<br>1           | 2<br>2           | 3<br>3           | 4<br>4           | 5<br>5           | 6<br>6           | 7<br>7           | 8<br>8           | 9<br>9           | 0<br>0           |          |
| Brain                        |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>RESPIRATORY SYSTEM</b>    |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Larynx                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Lung                         |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Nose                         |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Trachea                      |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>SPECIAL SENSES SYSTEM</b> |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Eye                          |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Harderian Gland              |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>URINARY SYSTEM</b>        |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Kidney                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Inflammation, Chronic        |             |                  |                  |                  | 1                |                  |                  |                  | 1                |                  |                  | 2 1.0    |
| Nephropathy                  |             |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  | 1 1.0    |
| Urinary Bladder              |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |

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X .. Lesion present

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1-4 .. Lesion qualified as:

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First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE MALE<br>25 mg/m3 | DAY ON TEST<br>ANIMAL ID |                       |                       |                       |                       |                       |                       |                       |                       |                       |                  |
|------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|
|                              |                          | 0<br>0<br>9<br>5      | 0<br>0<br>9<br>5 |
|                              |                          | 0<br>0<br>2<br>0<br>1 | 0<br>0<br>2<br>0<br>2 | 0<br>0<br>2<br>0<br>5 | 0<br>0<br>2<br>0<br>6 | 0<br>0<br>2<br>0<br>7 | 0<br>0<br>2<br>0<br>8 | 0<br>0<br>2<br>0<br>9 | 0<br>0<br>2<br>0<br>0 | 0<br>0<br>2<br>1<br>0 |                  |

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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Lab: BNW

|                  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|------------------|--|-------------|---|---|---|---|---|---|---|---|---|
|                  |  | ANIMAL ID   |   |   |   |   |   |   |   |   |   |
| B6C3F1 MICE MALE |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 mg/m3         |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 2           | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |
|                  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx

Inflammation, Chronic

Metaplasia, Squamous

|   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| + | + | + | + | + | + | + | + | + | + | + | 10     |
| 1 |   |   | 1 |   |   |   | 1 | 1 |   |   | 4 1.0  |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 10 2.2 |

Lung

|   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | 10 |
|---|---|---|---|---|---|---|---|---|---|---|----|

Nose

Inflammation, Suppurative

Olfactory Epithelium, Accumulation, Hyaline

Droplet

Respiratory Epithelium, Accumulation, Hyaline

Droplet

|   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| + | + | + | + | + | + | + | + | + | + | + | 10     |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 1.0  |
| 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 10 1.3 |

Trachea

|   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | 10 |
|---|---|---|---|---|---|---|---|---|---|---|----|

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

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First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE MALE | 50 mg/m <sup>3</sup> | ANIMAL ID | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|------------------|----------------------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                  |                      |           | 0<br>0<br>9<br>5      |
|                  |                      |           | 0<br>0<br>4<br>0<br>1 | 0<br>0<br>4<br>0<br>2 | 0<br>0<br>4<br>0<br>3 | 0<br>0<br>4<br>0<br>4 | 0<br>0<br>4<br>0<br>5 | 0<br>0<br>4<br>0<br>6 | 0<br>0<br>4<br>0<br>7 | 0<br>0<br>4<br>0<br>8 | 0<br>0<br>4<br>0<br>9 | 0<br>0<br>4<br>0<br>0 | 0<br>0<br>4<br>0<br>1 | 0<br>0<br>4<br>0<br>0 |

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

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|                  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|------------------|--|-------------|---|---|---|---|---|---|---|---|---|
|                  |  | ANIMAL ID   |   |   |   |   |   |   |   |   |   |
| B6C3F1 MICE MALE |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 mg/m3         |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 4           | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|                  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

Larynx

Hyperplasia, Squamous

Metaplasia, Squamous

|   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| + | + | + | + | + | + | + | + | + | + | + | 10     |
| 1 |   |   |   |   | 2 |   |   |   |   |   | 2 1.5  |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 10 4.0 |

Lung

Fibrosis

Infiltration Cellular, Histiocyte

Inflammation, Chronic Active

Bronchiole, Hyperplasia

|   |   |   |   |   |   |   |   |   |   |   |       |
|---|---|---|---|---|---|---|---|---|---|---|-------|
| + | + | + | + | + | + | + | + | + | + | + | 10    |
| 1 |   |   |   |   | 2 |   |   |   |   |   | 2 1.0 |
| 1 | 1 |   |   |   |   |   |   |   |   |   | 2 1.0 |
| 1 | 1 |   |   |   |   | 1 |   | 1 |   |   | 4 1.0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |   | 9 1.0 |

Nose

Inflammation, Suppurative

Olfactory Epithelium, Accumulation, Hyaline Droplet

Respiratory Epithelium, Accumulation, Hyaline Droplet

|   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| + | + | + | + | + | + | + | + | + | + | + | 10     |
| 1 |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 1.0  |
| 2 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 10 1.6 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |

Trachea

|   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | 10 |
|---|---|---|---|---|---|---|---|---|---|---|----|

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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M .. Missing tissue

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|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 4           | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 |   |

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE MALE | 100 mg/m <sup>3</sup> | ANIMAL ID | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|------------------|-----------------------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                  |                       |           | 0<br>0<br>9<br>5      |
|                  |                       |           | 0<br>0<br>6<br>0<br>1 | 0<br>0<br>6<br>0<br>2 | 0<br>0<br>6<br>0<br>3 | 0<br>0<br>6<br>0<br>4 | 0<br>0<br>6<br>0<br>5 | 0<br>0<br>6<br>0<br>6 | 0<br>0<br>6<br>0<br>7 | 0<br>0<br>6<br>0<br>8 | 0<br>0<br>6<br>0<br>9 | 0<br>0<br>6<br>0<br>0 | 0<br>0<br>6<br>0<br>1 | 0<br>0<br>6<br>0<br>0 |

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|                  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|------------------|--|-------------|---|---|---|---|---|---|---|---|---|
|                  |  | ANIMAL ID   |   |   |   |   |   |   |   |   |   |
| B6C3F1 MICE MALE |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 mg/m3        |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |
|                  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

## Larynx

Hyperplasia, Squamous

Inflammation, Chronic

Metaplasia, Squamous

|   | + | + | + | + | + | + | + | + | + | + | + | 10     |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| 2 | 1 | 1 | 2 |   | 1 | 2 | 2 | 2 | 2 | 2 |   | 9 1.7  |
| 1 |   |   | 1 | 1 |   |   |   |   |   |   |   | 3 1.0  |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |   | 10 4.0 |

## Lung

Fibrosis

Infiltration Cellular, Histiocyte

Inflammation, Chronic Active

Bronchiole, Hyperplasia

|   | + | + | + | + | + | + | + | + | + | + | + | 10     |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| 1 | 1 |   | 1 | 1 | 1 | 1 |   | 1 | 1 |   |   | 8 1.0  |
| 1 | 1 | 1 |   | 2 | 1 | 1 | 1 | 1 | 1 | 2 |   | 9 1.2  |
| 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 10 1.2 |
| 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.1 |

## Nose

Inflammation, Suppurative

Olfactory Epithelium, Accumulation, Hyaline Droplet

Respiratory Epithelium, Accumulation, Hyaline Droplet

|   | + | + | + | + | + | + | + | + | + | + | + | 10     |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| 1 |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |   |   | 8 1.0  |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 2.0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |

## Trachea

|  | + | + | + | + | + | + | + | + | + | + | + | 10 |
|--|---|---|---|---|---|---|---|---|---|---|---|----|
|  |   |   |   |   |   |   |   |   |   |   |   |    |

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 |

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 8           | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 0 |

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

## Metal working fluids (Trim VX)

**CAS Number:** TRIMVX

Date Report Requested: 03/24/2011

**Time Report Requested:** 15:32:43

**First Dose M/F:** 07/14/08 / 07/14/08

## Lab: BNW

|             |   |   |   |   |   |   |   |   |   |   |  |
|-------------|---|---|---|---|---|---|---|---|---|---|--|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |  |
|             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |  |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| ANIMAL ID   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|             | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |  |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |  |

**\* TOTALS**

# **NERVOUS SYSTEM**

NONE

## **RESPIRATORY SYSTEM**

## SPECIAL SENSES SYSTEM

NONE

## **URINARY SYSTEM**

\* .. Total animals with tissue examined

### **usion and mean severi**

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild      4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 8           | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 |

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE MALE | 400 mg/m <sup>3</sup> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------|-----------------------|-------------|---|---|---|---|---|---|---|---|---|---|
|                  |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID        |                       | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|                  |                       | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                  |                       | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |                       | 1           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|                  |                       | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |                       | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|                  |                       | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |

\* TOTALS

## ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Gallbladder               | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum   | + | + | + | + | M | + | + | + | + | + | + | 9  |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum    | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum  | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver                     | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + | + | 10 |

## CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | 10 |
|--------------|---|---|---|---|---|---|---|---|---|---|---|----|

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE MALE | 400 mg/m <sup>3</sup> | DAY ON TEST |   |   |   |   |   |   |   |   |   |   | * TOTALS |
|------------------|-----------------------|-------------|---|---|---|---|---|---|---|---|---|---|----------|
|                  |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |          |
| ANIMAL ID        |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |          |
|                  |                       |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |          |
|                  |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |          |
|                  |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |          |
|                  |                       |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |          |

Heart

+ + + + + + + + + + 10

## ENDOCRINE SYSTEM

Adrenal Cortex

+ + + + + + + + + + 10

Accessory Adrenal Cortical Nodule

X 1 1 1.0

Subcapsular, Hyperplasia

Adrenal Medulla

+ + + + + + + + + + 10

Islets, Pancreatic

+ + + + + + + + + + 10

Parathyroid Gland

+ + + + M + + M + M 7

Pituitary Gland

+ + + + M + + + + + 9

Thyroid Gland

+ + + + + + + + + + 10

## GENERAL BODY SYSTEM

NONE

## GENITAL SYSTEM

Epididymis + + + + + + + + + + 10

Preputial Gland + + + + + + + + + + 10

Prostate + + + + + + + + + + 10

Seminal Vesicle + + + + + + + + + + 10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE MALE              | 400 mg/m <sup>3</sup> | DAY ON TEST |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|-------------------------------|-----------------------|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|                               |                       |             | 0<br>0<br>9<br>5 |          |
|                               |                       | ANIMAL ID   | 0<br>1<br>0<br>0 |          |
| Testes                        |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>HEMATOPOIETIC SYSTEM</b>   |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Bone Marrow                   |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Lymph Node, Bronchial         |                       |             | +                | M                | +                | +                | +                | +                | M                | M                | +                | +                | 7        |
| Lymph Node, Mandibular        |                       |             | +                | M                | +                | +                | M                | +                | +                | +                | +                | +                | 8        |
| Lymph Node, Mediastinal       |                       |             | +                | +                | M                | +                | M                | M                | +                | M                | +                | +                | 6        |
| Lymph Node, Mesenteric        |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Spleen                        |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Thymus                        |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>INTEGUMENTARY SYSTEM</b>   |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Mammary Gland                 |                       |             | M                | M                | M                | M                | M                | M                | M                | M                | M                | M                | 0        |
| Skin                          |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>MUSCULOSKELETAL SYSTEM</b> |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Bone                          |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>NERVOUS SYSTEM</b>         |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Brain                         |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|                  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|------------------|--|-------------|---|---|---|---|---|---|---|---|---|
|                  |  | ANIMAL ID   |   |   |   |   |   |   |   |   |   |
| B6C3F1 MICE MALE |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 mg/m3        |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|                  |  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 1           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|                  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

## RESPIRATORY SYSTEM

## Larynx

Hyperplasia, Squamous  
Metaplasia, Squamous

|   |   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| + | + | + | + | + | + | + | + | + | + | + | + | 10     |
| 2 | 2 | 3 | 2 | 1 |   | 1 | 3 | 2 | 1 |   |   | 9 1.9  |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |   | 10 4.0 |

## Lung

Fibrosis  
Infiltration Cellular, Histiocyte  
Inflammation, Chronic Active  
Bronchiole, Hyperplasia

|   |   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| + | + | + | + | + | + | + | + | + | + | + | + | 10     |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 10 3.0 |
| 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 2 |   |   | 10 1.5 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 10 3.0 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |   | 10 2.8 |

## Nose

Inflammation, Suppurative  
Olfactory Epithelium, Accumulation, Hyaline  
Droplet  
Respiratory Epithelium, Accumulation, Hyaline  
Droplet

|   |   |   |   |   |   |   |   |   |   |   |   |        |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| + | + | + | + | + | + | + | + | + | + | + | + | 10     |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 2.0 |
| 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 |   | 10 1.3 |

## Trachea

|   |   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | + | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|----|

## SPECIAL SENSES SYSTEM

## Eye

|   |   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | + | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|----|

## Harderian Gland

|   |   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | + | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|----|

## URINARY SYSTEM

## Kidney

Inflammation, Chronic

|   |   |   |   |   |   |   |   |   |   |   |   |       |
|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| + | + | + | + | + | + | + | + | + | + | + | + | 10    |
|   |   |   |   |   |   |   |   |   |   |   |   | 1 1.0 |

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

## Metal working fluids (Trim VX)

**CAS Number:** TRIMVX

**Date Report Requested:** 03/24/2011

**Time Report Requested:** 15:32:43

**First Dose M/F:** 07/14/08 / 07/14/08

## Lab: BNW

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

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grad

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

#### A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild      4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE | 0 mg/m <sup>3</sup> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------|---------------------|-------------|---|---|---|---|---|---|---|---|---|---|
|                    |                     |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID          |                     |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|                    |                     |             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|                    |                     |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                    |                     |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                    |                     |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|                    |                     |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|                    |                     |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

## ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Gallbladder               | + | + | + | + | + | + | + | + | + | M |   | 9  |
| Intestine Large, Cecum    | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Large, Colon    | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Large, Rectum   | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Small, Ileum    | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Small, Jejunum  | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Liver                     | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + |   | 10 |

## CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | M | + | + | + | + | + | + | + | + | + | + | 9 |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE | 0 mg/m <sup>3</sup> | DAY ON TEST      |  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |     |  |  |
|--------------------|---------------------|------------------|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|-----|--|--|
|                    |                     |                  | 0<br>0<br>9<br>6                               | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>6 |          |     |  |  |
| ANIMAL ID          | 0 mg/m <sup>3</sup> | ENDOCRINE SYSTEM |  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |     |  |  |
|                    |                     |                  | +  | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  |  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |     |  |  |
|                    |                     |                  | Adrenal Cortex                                 | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |     |  |  |
|                    |                     |                  | Vacuolization Cytoplasmic                      | 2                | 2                | 1                | 2                | 2                | 2                | 2                | 2                | 2                | 6        | 1.8 |  |  |
|                    |                     |                  | Subcapsular, Accessory Adrenal Cortical Nodule | X                |                  |                  |                  |                  |                  |                  |                  |                  | 1        |     |  |  |
|                    |                     |                  | Subcapsular, Hyperplasia                       |                  | 1                | 1                | 2                | 2                | 2                | 2                | 2                | 2                | 5        | 1.6 |  |  |
|                    |                     |                  | Adrenal Medulla                                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |     |  |  |
|                    |                     |                  | Islets, Pancreatic                             | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |     |  |  |
|                    |                     |                  | Parathyroid Gland                              | M                | M                | M                | +                | +                | M                | +                | +                | +                | M        | 5   |  |  |
|                    |                     |                  | Pituitary Gland                                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10  |  |  |
|                    |                     |                  | Thyroid Gland                                  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10  |  |  |

## GENERAL BODY SYSTEM

NONE

## GENITAL SYSTEM

Clitoral Gland

+ M + + M + + + + + 8

Ovary

+ + + + + + + + + + 10

Uterus

+ + + + + + + + + + 10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

## Metal working fluids (Trim VX)

**CAS Number:** TRIMVX

**Date Report Requested:** 03/24/2011

**Time Report Requested:** 15:32:43

**First Dose M/F:** 07/14/08 / 07/14/08

Lab: BNW

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---|---|---|---|---|---|---|---|---|---|
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID   | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

**\* TOTALS**

## **HEMATOPOIETIC SYSTEM**

## **INTEGUMENTARY SYSTEM**

## MUSCULOSKELETAL SYSTEM

Bone + + + + + + + + + + + 10

## **NERVOUS SYSTEM**

Brain + + + + + + + + + + + 10

## RESPIRATORY SYSTEM

\* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ Tissue examined microscopically

✗ Lesion present

✗ .. Lesion present

#### M Missing tissue

A Autolysis precludes evaluation

**BLANK** Not examined microscopically

#### 1-4 Lesion qualified as:

Lesion qualified as:

1) Minimal 3) Moderate  
2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE           | 0 mg/m <sup>3</sup> | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |  | * TOTALS |  |
|------------------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|----------|--|
|                              |                     |                       | 0<br>0<br>9<br>6   |          |  |
| ANIMAL ID                    | Larynx              | 0<br>0<br>1<br>0<br>1 | 0<br>0<br>1<br>0<br>2 | 0<br>0<br>1<br>0<br>3 | 0<br>0<br>1<br>0<br>4 | 0<br>0<br>1<br>0<br>5 | 0<br>0<br>1<br>0<br>6 | 0<br>0<br>1<br>0<br>7 | 0<br>0<br>1<br>0<br>8 | 0<br>0<br>1<br>0<br>9 | 0<br>0<br>1<br>0<br>0 | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10 |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
|                              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
| <b>SPECIAL SENSES SYSTEM</b> |                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
| Eye                          |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  | 10       |  |
| Harderian Gland              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  | 10       |  |
| <b>URINARY SYSTEM</b>        |                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  |          |  |
| Kidney                       |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  | 10       |  |
| Cyst                         |                     | X                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |  | 1        |  |
| Nephropathy                  |                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |  | 1 1.0    |  |
| Urinary Bladder              |                     | + + + + + + + + + +   |                       |                       |                       |                       |                       |                       |                       |                       |                       |  | 10       |  |

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE<br>25 mg/m3 | DAY ON TEST<br>ANIMAL ID |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--------------------------------|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                |                          | 0<br>0<br>9<br>6 |
|                                |                          | 0<br>0<br>3<br>0 | 0<br>0<br>3<br>1 |
|                                |                          | 1<br>2           | 3<br>4           | 5<br>6           | 6<br>7           | 7<br>8           | 8<br>9           | 9<br>0           |                  |                  |                  |

\* TOTALS

**ALIMENTARY SYSTEM**

NONE

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

NONE

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

NONE

**HEMATOPOIETIC SYSTEM**

NONE

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|                    |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|--------------------|--|-------------|---|---|---|---|---|---|---|---|---|
|                    |  | ANIMAL ID   |   |   |   |   |   |   |   |   |   |
| B6C3F1 MICE FEMALE |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 mg/m3           |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                    |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                    |  | 3           | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|                    |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |
|                    |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx

Inflammation, Chronic  
Metaplasia, Squamous

|   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | 10 |
|   |   |   |   |   |   | 1 | 1 | 1 | 1 |   |    |
| 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 |

4 1.0

10 2.2

Lung

|   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | 10 |
|   |   |   |   |   |   |   |   |   |   |   |    |

Nose

Inflammation, Suppurative

Olfactory Epithelium, Accumulation, Hyaline  
DropletRespiratory Epithelium, Accumulation, Hyaline  
Droplet

|   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | 10 |
|   |   |   |   |   |   | 1 |   |   |   |   |    |
| 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 |    |
|   |   |   |   |   |   |   |   |   |   |   |    |

1 1.0

10 1.5

10 1.3

Trachea

|   |   |   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|---|---|----|
| + | + | + | + | + | + | + | + | + | + | + | 10 |
|   |   |   |   |   |   |   |   |   |   |   |    |

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE<br>50 mg/m3 | DAY ON TEST<br>ANIMAL ID |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|--------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                                |                          | 0<br>0<br>9<br>6      |
|                                |                          | 0<br>0<br>5<br>0<br>1 | 0<br>0<br>5<br>0<br>2 | 0<br>0<br>5<br>0<br>3 | 0<br>0<br>5<br>0<br>4 | 0<br>0<br>5<br>0<br>5 | 0<br>0<br>5<br>0<br>6 | 0<br>0<br>5<br>0<br>7 | 0<br>0<br>5<br>0<br>8 | 0<br>0<br>5<br>0<br>9 | 0<br>0<br>5<br>0<br>0 |

\* TOTALS

**ALIMENTARY SYSTEM**

NONE

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

Adrenal Cortex

+

1

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

NONE

**HEMATOPOIETIC SYSTEM**

NONE

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE | 50 mg/m <sup>3</sup> | ANIMAL ID | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|--------------------|----------------------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                    |                      |           | 0<br>0<br>9<br>6      |
|                    |                      |           | 0<br>0<br>5<br>0<br>1 | 0<br>0<br>5<br>0<br>2 | 0<br>0<br>5<br>0<br>3 | 0<br>0<br>5<br>0<br>4 | 0<br>0<br>5<br>0<br>5 | 0<br>0<br>5<br>0<br>6 | 0<br>0<br>5<br>0<br>7 | 0<br>0<br>5<br>0<br>8 | 0<br>0<br>5<br>0<br>9 | 0<br>0<br>5<br>0<br>0 | 0<br>0<br>5<br>0<br>1 | 0<br>0<br>5<br>0<br>0 |

\* TOTALS

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

## Larynx

Hyperplasia, Squamous

Inflammation, Chronic

Metaplasia, Squamous

## Lung

Infiltration Cellular, Histiocyte

Inflammation, Chronic Active

Bronchiole, Hyperplasia

## Nose

Inflammation, Suppurative

Olfactory Epithelium, Accumulation, Hyaline  
DropletRespiratory Epithelium, Accumulation, Hyaline  
Droplet

## Trachea

|         |   |   |   |   |   |   |   |   |   |   |   |   |   |        |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Larynx  | + | + | + | + | + | + | + | + | + | + | + | + | + | 10     |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 2.0  |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 5 1.0  |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 10 2.6 |
| Lung    | + | + | + | + | + | + | + | + | + | + | + | + | + | 10     |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 1.0  |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 2 1.0  |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 4 1.0  |
| Nose    | + | + | + | + | + | + | + | + | + | + | + | + | + | 10     |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 6 1.0  |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 10 2.0 |
|         |   |   |   |   |   |   |   |   |   |   |   |   |   | 10 1.7 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | 10     |

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 |   |

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE<br>100 mg/m3 | DAY ON TEST<br>ANIMAL ID |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|---------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                                 |                          | 0<br>0<br>9<br>6      |
|                                 |                          | 0<br>0<br>7<br>0<br>1 | 0<br>0<br>7<br>0<br>2 | 0<br>0<br>7<br>0<br>3 | 0<br>0<br>7<br>0<br>4 | 0<br>0<br>7<br>0<br>5 | 0<br>0<br>7<br>0<br>6 | 0<br>0<br>7<br>0<br>7 | 0<br>0<br>7<br>0<br>8 | 0<br>0<br>7<br>0<br>9 | 0<br>0<br>7<br>0<br>0 |

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

Adrenal Cortex

+

1

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|                    |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|--------------------|--|-------------|---|---|---|---|---|---|---|---|---|
|                    |  | ANIMAL ID   |   |   |   |   |   |   |   |   |   |
| B6C3F1 MICE FEMALE |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 mg/m3          |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                    |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                    |  | 7           | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|                    |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |
|                    |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

## Larynx

Hyperplasia, Squamous

Inflammation, Chronic

Metaplasia, Squamous

| + | + | + | + | + | + | + | + | + | + | + | 10     |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| 2 | 2 | 2 | 1 | 2 | 2 |   |   |   |   | 2 | 7 1.9  |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |   | 1 | 1 |   | 8 1.0  |
| 4 | 2 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 4 |   | 10 3.4 |

## Lung

Fibrosis

Infiltration Cellular, Histiocyte

Inflammation, Chronic Active

Bronchiole, Hyperplasia

| + | + | + | + | + | + | + | + | + | + | + | 10     |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
|   |   |   |   |   |   |   |   |   |   |   | 5 1.4  |
| 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 |   | 10 1.4 |
| 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 |   | 10 1.4 |

## Nose

Inflammation, Suppurative

Olfactory Epithelium, Accumulation, Hyaline Droplet

Respiratory Epithelium, Accumulation, Hyaline Droplet

| + | + | + | + | + | + | + | + | + | + | + | 10     |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| 1 |   |   |   | 1 |   | 1 |   | 1 | 1 | 1 | 5 1.0  |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 2.0 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 10 2.1 |

## Trachea

| + | + | + | + | + | + | + | + | + | + | + | 10 |
|---|---|---|---|---|---|---|---|---|---|---|----|
|   |   |   |   |   |   |   |   |   |   |   |    |

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 7           | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 |

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE<br>200 mg/m3 | ANIMAL ID | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|---------------------------------|-----------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                 |           | 0<br>0<br>9<br>6 |
|                                 |           | 0<br>0<br>9<br>6 |
|                                 |           | 0<br>0<br>9<br>0 | 0<br>0<br>9<br>1 | 0<br>0<br>9<br>2 | 0<br>0<br>9<br>3 | 0<br>0<br>9<br>4 | 0<br>0<br>9<br>5 | 0<br>0<br>9<br>6 | 0<br>0<br>9<br>7 | 0<br>0<br>9<br>8 | 0<br>0<br>9<br>9 |

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

Lymph Node, Mediastinal

+

M

1

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

## Larynx

Hyperplasia, Squamous

Inflammation, Chronic

Metaplasia, Squamous

|   | + | + | + | + | + | + | + | + | + | + | + |        |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| 2 | 2 | 2 | 2 | 2 | 2 | 2 |   | 2 |   |   |   | 10     |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |   |   | 9 1.0  |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |   |   | 10 4.0 |

## Lung

Fibrosis

Infiltration Cellular, Histiocyte

Inflammation, Chronic Active

Bronchiole, Hyperplasia

|   | + | + | + | + | + | + | + | + | + | + | + |        |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10     |
| 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |   |   | 9 1.1  |
| 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 10 2.2 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 2.0 |

## Nose

Inflammation, Suppurative

Olfactory Epithelium, Accumulation, Hyaline Droplet

Respiratory Epithelium, Accumulation, Hyaline Droplet

Respiratory Epithelium, Hyperplasia

|   | + | + | + | + | + | + | + | + | + | + | + |        |
|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10     |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 1.0 |
| 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 10 2.0 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10 2.1 |
|   |   |   |   |   |   | 1 |   |   |   |   |   | 1 1.0  |

## Trachea

|  | + | + | + | + | + | + | + | + | + | + | + |    |
|--|---|---|---|---|---|---|---|---|---|---|---|----|
|  |   |   |   |   |   |   |   |   |   |   |   | 10 |

**SPECIAL SENSES SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

|  |  | DAY ON TEST |   |   |   |   |   |   |   |   |   |
|--|--|-------------|---|---|---|---|---|---|---|---|---|
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 6           | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 9           | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|  |  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

**URINARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE | 400 mg/m <sup>3</sup> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------|-----------------------|-------------|---|---|---|---|---|---|---|---|---|---|
|                    |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID          |                       |             | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|                    |                       |             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|                    |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                    |                       |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|                    |                       |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|                    |                       |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|                    |                       |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

\* TOTALS

## ALIMENTARY SYSTEM

|                           |   |   |   |   |   |   |   |   |   |   |   |    |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus                 | + | + | + | + | + | + | + | + | + | + | + | 10 |
| Gallbladder               | + | + | + | + | + | + | + | M | M | + |   | 8  |
| Intestine Large, Cecum    | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Large, Colon    | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Large, Rectum   | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Small, Ileum    | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Intestine Small, Jejunum  | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Liver                     | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + |   | 10 |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + |   | 10 |

## CARDIOVASCULAR SYSTEM

|              |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------|---|---|---|---|---|---|---|---|---|---|---|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | 10 |
|--------------|---|---|---|---|---|---|---|---|---|---|---|----|

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/24/2011

Time Report Requested: 15:32:43

First Dose M/F: 07/14/08 / 07/14/08

Lab: BNW

| B6C3F1 MICE FEMALE                             | 400 mg/m <sup>3</sup> | DAY ON TEST |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |
|--|-----------------------|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|
|  |                       |             | 0<br>0<br>9<br>6 |          |
| ANIMAL ID                                      |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
|  | 0                     | 0           | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0        |
|  | 1                     | 1           | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1        |
|  | 1                     | 1           | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1        |
|  | 0                     | 0           | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 1        |
|  | 1                     | 2           | 3                | 4                | 5                | 6                | 7                | 8                | 9                | 0                |                  |                  |          |
|  |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
|  |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
|  |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
|  |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Heart  |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| <b>ENDOCRINE SYSTEM</b>                        |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |
| Adrenal Cortex                                 |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Vacuolization Cytoplasmic                      |                       |             |                  |                  | 2                |                  | 2                |                  |                  |                  |                  |                  | 4 1.8    |
| Subcapsular, Accessory Adrenal Cortical Nodule |                       |             |                  |                  |                  | X                |                  |                  |                  |                  |                  |                  | 1        |
| Subcapsular, Hyperplasia                       |                       |             |                  |                  | 1                |                  | 2                | 2                | 1                | 2                |                  |                  | 5 1.6    |
| Adrenal Medulla                                |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Islets, Pancreatic                             |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Parathyroid Gland                              |                       |             | M                | +                | +                | M                | M                | M                | M                | M                | +                | M                | 3        |
| Pituitary Gland                                |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |
| Thyroid Gland                                  |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | 10       |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Clitoral Gland

+ + + + + + + + M + + 9

Ovary

+ + + + + + + + + + + 10

Uterus

+ + + + + + + + + + + 10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20523 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

## Metal working fluids (Trim VX)

**CAS Number:** TRIMVX

**Date Report Requested:** 03/24/2011

**Time Report Requested:** 15:32:43

**First Dose M/F:** 07/14/08 / 07/14/08

Lab: BNW

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---|---|---|---|---|---|---|---|---|---|
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID   | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
|             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

**\* TOTALS**

## **HEMATOPOIETIC SYSTEM**

## **INTEGUMENTARY SYSTEM**

## MUSCULOSKELETAL SYSTEM

**Bone** + + + + + + + + + + + **10**

## **NERVOUS SYSTEM**

**Brain** + + + + + + + + + + + **10**

## RESPIRATORY SYSTEM

\* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

± = Tissue examined microscopically

X Lesion present

.. Lesion present  
 Insufficient tissue

## M Missing tissue

A Autolysis precludes evaluation

**BLANK** Not examined microscopically

#### 1-4 Lesion qualified as:

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| B6C3F1 MICE FEMALE                                    | 400 mg/m <sup>3</sup> | DAY ON TEST |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | * TOTALS |        |
|---|-----------------------|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------|--------|
|   |                       |             | 0<br>0<br>9<br>6 |          |        |
| ANIMAL ID   |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |        |
|   | 1                     | 0           | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0        |        |
|   | 1                     | 1           | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1        |        |
|   | 1                     | 1           | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1        |        |
|   | 0                     | 0           | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 1        |        |
|   | 1                     | 2           | 3                | 4                | 5                | 6                | 7                | 8                | 9                | 9                | 0                |                  |          |        |
|   |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |        |
|   |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |        |
|   |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |        |
|   |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |        |
| Larynx  |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10     |
| Hyperplasia, Squamous                                 |                       |             | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2        | 8 2.0  |
| Inflammation, Chronic                                 |                       |             |                  | 1                | 1                |                  | 1                |                  | 1                | 1                |                  |                  |          | 5 1.0  |
| Metaplasia, Squamous                                  |                       |             | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                |                  |          | 10 4.0 |
| Lung  |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10     |
| Fibrosis  |                       |             | 3                | 3                | 3                | 3                | 2                | 3                | 3                | 3                | 3                | 3                | 3        | 10 2.9 |
| Infiltration Cellular, Histiocyte                     |                       |             | 2                | 2                | 2                | 1                | 2                | 2                | 2                | 1                | 2                | 2                | 2        | 10 1.8 |
| Inflammation, Chronic Active                          |                       |             | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3        | 10 3.0 |
| Bronchiole, Hyperplasia                               |                       |             | 3                | 3                | 3                | 3                | 2                | 3                | 3                | 3                | 3                | 3                | 3        | 10 2.9 |
| Nose  |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10     |
| Inflammation, Suppurative                             |                       |             |                  | 1                | 1                |                  | 1                | 1                |                  | 1                | 1                | 1                |          | 7 1.0  |
| Olfactory Epithelium, Accumulation, Hyaline Droplet   |                       |             | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2        | 10 2.0 |
| Respiratory Epithelium, Accumulation, Hyaline Droplet |                       |             | 2                | 2                | 2                | 2                | 2                | 2                | 3                | 2                | 2                | 2                |          | 10 2.1 |
| Trachea   |                       |             | +                | +                | +                | +                | +                | +                | M                | +                | +                |                  |          | 9      |
| <b>SPECIAL SENSES SYSTEM</b>                          |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |        |
| Eye   |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10     |
| Harderian Gland                                       |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10     |
| <b>URINARY SYSTEM</b>                                 |                       |             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |          |        |
| Kidney  |                       |             | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +        | 10     |
| Nephropathy   |                       |             |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  |          | 1 1.0  |

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|                    |   | DAY ON TEST           |   |   |   |   |   |   |   |   |   |          |   |   |   |   |   |   |   |   |    |
|--------------------|---|-----------------------|---|---|---|---|---|---|---|---|---|----------|---|---|---|---|---|---|---|---|----|
|                    |   | ANIMAL ID             |   |   |   |   |   |   |   |   |   |          |   |   |   |   |   |   |   |   |    |
| B6C3F1 MICE FEMALE |   | 400 mg/m <sup>3</sup> |   |   |   |   |   |   |   |   |   | * TOTALS |   |   |   |   |   |   |   |   |    |
| 0                  | 0 | 0                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
| 0                  | 0 | 0                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
| 9                  | 9 | 9                     | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9        | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9  |
| 6                  | 6 | 6                     | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6        | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6  |
| 0                  | 0 | 0                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
| 1                  | 1 | 1                     | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1        | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 1                  | 1 | 1                     | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1        | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 0                  | 0 | 0                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1  |
| 1                  | 2 | 3                     | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
| Urinary Bladder    |   | +                     | + | + | + | + | + | + | + | + | + | +        | + | + | + | + | + | + | + | + | 10 |

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

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