

**TDMS No.** 20523 - 01

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** RATS/Wistar Han

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

Metal working fluids (Trim VX)

**CAS Number:** TRIMVX

**Date Report Requested:** 03/18/2011

**Time Report Requested:** 13:35:18

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

**Lab:** BNW

F1\_RE

**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

WISTAR HAN RATS MALE	DAY ON TEST										* TOTALS
	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	
0 mg/m3	ANIMAL ID										
	0 0 0 0 1	0 0 0 0 2	0 0 0 0 3	0 0 0 0 4	0 0 0 0 5	0 0 0 0 6	0 0 0 0 7	0 0 0 0 8	0 0 0 0 9	0 0 0 0 0	

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	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 Inflammation, Chronic Active	+	+	+	+	+	+	+	+	+	1	10 1 1.0
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

**CARDIOVASCULAR SYSTEM**

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

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 + .. Tissue examined microscopically  
 X .. Lesion present  
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 M .. Missing tissue  
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 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:  
 1) Minimal 3) Moderate  
 2) Mild 4) Marked

WISTAR HAN RATS MALE	DAY ON TEST										ANIMAL ID
	0093	0093	0093	0093	0093	0093	0093	0093	0093	0093	
0 mg/m3	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	1	0
	1	2	3	4	5	6	7	8	9	0	

\* TOTALS

Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy			1								1 1.0

**ENDOCRINE SYSTEM**

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Accessory Adrenal Cortical Nodule		X				X		X	X		4
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	+	+	+	10
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic				2		2			1		3 1.7
Prostate	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic		2									1 2.0

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID		
	9	9	9	9	9	9	9	9	9	9			
WISTAR HAN RATS MALE	3	3	3	3	3	3	3	3	3	3			
0 mg/m3	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
Inflammation, Chronic Active							1						1 1.0
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+			10
Testes	+	+	+	+	+	+	+	+	+	+			10
<b>HEMATOPOIETIC SYSTEM</b>													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			10
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+			10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+			10
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+			10
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+			10
Spleen	+	+	+	+	+	+	+	+	+	+			10
Thymus	+	+	+	+	+	+	+	+	+	+			10
<b>INTEGUMENTARY SYSTEM</b>													
Mammary Gland	M	M	M	+	M	M	M	M	M	+			2
Skin	+	+	+	+	+	+	+	+	+	+			10
<b>MUSCULOSKELETAL SYSTEM</b>													
Bone	+	+	+	+	+	+	+	+	+	+			10

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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
9	9	9	9	9	9	9	9	9	9	9
3	3	3	3	3	3	3	3	3	3	3
ANIMAL ID	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

**NERVOUS SYSTEM**

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

**RESPIRATORY SYSTEM**

Larynx + + + + + + + + + + 10

Lung + + + + + + + + + + 10  
 Artery, Mineralization 2 1 2.0

Nose + + + + + + + + + + 10  
 Inflammation, Chronic 1 1 1.0  
 Necrosis 1 1 1.0  
 Olfactory Epithelium, Accumulation, Hyaline Droplet 1 1 1.0

Trachea + + + + + + + + + + 10

**SPECIAL SENSES SYSTEM**

Eye + + + + + + + + + + 10

Harderian Gland + + + + + + + + + + 10  
 Inflammation, Chronic 1 1 2 1.0

**URINARY SYSTEM**

Kidney + + + + + + + + + + 10  
 Inflammation 1 1 1.0  
 Inflammation, Chronic Active 1 1 1.0

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CAS Number: TRIMVX

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Lab: BNW

WISTAR HAN RATS MALE	DAY ON TEST										ANIMAL ID										
	003	003	003	003	003	003	003	003	003	003											
0 mg/m3	0	0	0	0	0	0	0	0	0	0	0001										
	0	0	0	0	0	0	0	0	0	0	0002										
	0	0	0	0	0	0	0	0	0	0	0003										
	0	0	0	0	0	0	0	0	0	0	0004										
	0	0	0	0	0	0	0	0	0	0	0005										
	0	0	0	0	0	0	0	0	0	0	0006										
	0	0	0	0	0	0	0	0	0	0	0007										
	0	0	0	0	0	0	0	0	0	0	0008										
	0	0	0	0	0	0	0	0	0	0	0009										
	0	0	0	0	0	0	0	0	0	0	0010										
	1	2	3	4	5	6	7	8	9	0											
												<b>* TOTALS</b>									
Renal Tubule, Regeneration											1	1	<b>2 1.0</b>								
Urinary Bladder											+	+	+	+	+	+	+	+	+	+	<b>10</b>

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	DAY ON TEST	0	0	0	0	0	0	0	0	0	
<b>WISTAR HAN RATS MALE</b>		0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	
<b>25 mg/m3</b>	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
<b>* TOTALS</b>											

**ALIMENTARY SYSTEM**

Liver + 1  
 Inflammation, Focal, Chronic Active 4 1 4.0

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

NONE

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

NONE

**HEMATOPOIETIC SYSTEM**

NONE

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

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

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WISTAR HAN RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	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
25 mg/m3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		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	2	2	2	2	2	2	2	2	2
		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									
<b>* TOTALS</b>																				

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia, Squamous	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8 1.0
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10 1.0
Metaplasia, Squamous	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	10 2.1
Ulcer			1																	1 1.0
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Metaplasia, Osseous	1		1																	2 1.0
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10 1.0
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	2	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	10 1.7
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	2	2	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	10 1.7

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

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WISTAR HAN RATS MALE  50 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	* TOTALS
		0	0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	3	3	
	ANIMAL ID	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		

**ALIMENTARY SYSTEM**

NONE

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

NONE

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

NONE

**HEMATOPOIETIC SYSTEM**

NONE

**INTEGUMENTARY SYSTEM**

Skin	+	1
Ulcer	3	1 3.0

**MUSCULOSKELETAL SYSTEM**

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<b>WISTAR HAN RATS MALE</b>	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	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3	3
<b>50 mg/m3</b>	ANIMAL ID	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
		4	4	4	4	4	4	4	4	4	4	4	4	4	4
		0	0	0	0	0	0	0	0	0	0	0	1	0	0
	1	2	3	4	5	6	7	8	9	0					
<b>* TOTALS</b>															

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Hyperplasia, Squamous			1	1	2	1	1	1	2	2	<b>8 1.4</b>
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Metaplasia, Squamous	3	3	2	3	3	2	2	2	3	2	<b>10 2.5</b>
Lung	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Fibrosis	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Infiltration Cellular, Histiocyte			1								<b>1 1.0</b>
Inflammation, Chronic Active	1		1	1		1	1	1	1	1	<b>8 1.0</b>
Metaplasia, Osseous			1	1			1		1		<b>4 1.0</b>
Pigmentation		1					1		1		<b>3 1.0</b>
Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Goblet Cell, Hyperplasia							1				<b>1 1.0</b>
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	1	2	1	2	2	2	3	2	3	<b>10 2.0</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	1	2	1	2	2	2	3	2	3	<b>10 2.0</b>

**SPECIAL SENSES SYSTEM**

NONE

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<b>WISTAR HAN RATS MALE</b>	DAY ON TEST	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	
		3	3	3	3	3	3	3	3	3	
<b>50 mg/m3</b>	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

URINARY SYSTEM

NONE

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WISTAR HAN RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	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
100 mg/m3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		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	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	1
		1	2	3	4	5	6	7	8	9	0									
<b>* TOTALS</b>																				

ALIMENTARY SYSTEM

Stomach, Glandular Atrophy

+  
2

1

1 2.0

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Testes  
Germinal Epithelium, Degeneration

+  
2

1

1 2.0

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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<b>WISTAR HAN RATS MALE</b>	DAY ON TEST	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	
		3	3	3	3	3	3	3	3	3	
<b>100 mg/m3</b>	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Hyperplasia, Squamous		1	1			1	1	1	1	1	<b>7 1.0</b>
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Metaplasia, Squamous	2	3	4	2	2	3	2	3	2	2	<b>10 2.5</b>
Lung	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Fibrosis	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Infiltration Cellular, Histiocyte	1	1	1	2	1	2	1	1	1	1	<b>10 1.2</b>
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Pigmentation		1		1			1				<b>3 1.0</b>
Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Goblet Cell, Hyperplasia			1			1		1			<b>3 1.0</b>
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	3	2	1	3	3	2	2	3	2	<b>10 2.3</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	3	2	1	3	3	2	2	3	2	<b>10 2.3</b>

**SPECIAL SENSES 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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

<b>WISTAR HAN RATS MALE</b>	DAY ON TEST	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		
		3	3	3	3	3	3	3	3	3		
<b>100 mg/m3</b>	ANIMAL ID	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			
		0	0	0	0	0	0	0	1			
		1	2	3	4	5	6	7	8	9	0	<b>* TOTALS</b>

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

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BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

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2) Mild 4) Marked

TDMS No. 20523 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

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

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

<b>WISTAR HAN RATS MALE</b>	DAY ON TEST	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	
		3	3	3	3	3	3	3	3	3	
<b>200 mg/m3</b>	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

**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

WISTAR HAN RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
200 mg/m3	ANIMAL ID	3	3	3	3	3	3	3	3	3	
		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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Hyperplasia, Squamous	1	1	2	1	1	1	2	1	3	2	<b>10 1.5</b>
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Metaplasia, Squamous	3	3	3	4	4	4	3	3	4	3	<b>10 3.4</b>
Lung	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Fibrosis	1	1	1	1	1	1	1	2	1	1	<b>10 1.1</b>
Infiltration Cellular, Histiocyte	2	2	2	2	2	2	2	2	2	2	<b>10 2.0</b>
Inflammation, Chronic Active	1	1	1	1	1	1	1	2	1	1	<b>10 1.1</b>
Pigmentation					1						<b>1 1.0</b>
Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Goblet Cell, Hyperplasia	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	3	3	3	3	2	3	3	3	<b>10 2.7</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	2	3	3	3	3	2	3	3	3	<b>10 2.7</b>
Respiratory Epithelium, Hyperplasia	1	1	1	1	1	1	1	1		1	<b>9 1.0</b>
Respiratory Epithelium, Metaplasia, Squamous		1	1					1		1	<b>4 1.0</b>
Respiratory Epithelium, Necrosis		1									<b>1 1.0</b>

**SPECIAL SENSES 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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

<b>WISTAR HAN RATS MALE</b>	DAY ON TEST	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	
		3	3	3	3	3	3	3	3	3	
<b>200 mg/m3</b>	ANIMAL ID	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		
		0	0	0	0	0	0	0	1		
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

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

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	9
3	3	3	3	3	3	3	3	3	3	3
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
<b>* TOTALS</b>										

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Chronic Active					1						<b>1 1.0</b>
Metaplasia, Squamous									1		<b>1 1.0</b>
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Pancreas	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Chronic Active	1										<b>1 1.0</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR 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

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID			
	9	9	9	9	9	9	9	9	9	9				
3	3	3	3	3	3	3	3	3	3	3				
<b>WISTAR HAN RATS MALE</b>														
<b>400 mg/m3</b>														
	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				<b>* TOTALS</b>
Blood Vessel	+	+	+	+	+	+	+	+	+	+				<b>10</b>
Heart	+	+	+	+	+	+	+	+	+	+				<b>10</b>
Cardiomyopathy					1									<b>1 1.0</b>
<b>ENDOCRINE SYSTEM</b>														
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+				<b>10</b>
Accessory Adrenal Cortical Nodule									X	X				<b>2</b>
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+				<b>10</b>
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+				<b>10</b>
Parathyroid Gland	M	+	+	+	+	+	+	+	+	+				<b>9</b>
Pituitary Gland	+	+	+	+	+	+	+	+	+	M				<b>9</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+				<b>10</b>
<b>GENERAL BODY SYSTEM</b>														
NONE														
<b>GENITAL SYSTEM</b>														
Epididymis	+	+	+	+	+	+	+	+	+	+				<b>10</b>
Preputial Gland	+	+	+	+	+	+	+	+	+	+				<b>10</b>
Inflammation, Chronic									1	1				<b>2 1.0</b>

\* .. 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

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID		
	9	9	9	9	9	9	9	9	9	9			
3	3	3	3	3	3	3	3	3	3	3			
<b>WISTAR HAN RATS MALE</b>													
<b>400 mg/m3</b>													
<b>* TOTALS</b>													
Prostate	+	+	+	+	+	+	+	+	+	+			10
Inflammation, Chronic					2					1			2 1.5
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+			10
Testes	+	+	+	+	+	+	+	+	+	+			10
<b>HEMATOPOIETIC SYSTEM</b>													
Bone Marrow	+	+	+	+	+	+	+	+	+	+			10
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+			10
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+			10
Lymph Node, Mediastinal	+	+	+	+	+	+	M	+	+	+			9
Hyperplasia, Lymphoid	3												1 3.0
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+			10
Spleen	+	+	+	+	+	+	+	+	+	+			10
Thymus	+	+	+	+	+	+	+	+	+	+			10
<b>INTEGUMENTARY SYSTEM</b>													
Mammary Gland	M	M	M	M	M	M	M	M	M	+			1
Skin	+	+	+	+	+	+	+	+	+	+			10
<b>MUSCULOSKELETAL SYSTEM</b>													

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 + .. 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

WISTAR HAN RATS MALE 400 mg/m3	DAY ON TEST										* TOTALS
	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	
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	
Bone	+	+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>											
Brain	+	+	+	+	+	+	+	+	+	+	10
<b>RESPIRATORY SYSTEM</b>											
Larynx	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia, Squamous	2	3	2	2	2	2	3	2	3	3	10 2.4
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10 1.0
Metaplasia, Squamous	4	3	3	4	3	4	3	3	3	4	10 3.4
Lung	+	+	+	+	+	+	+	+	+	+	10
Fibrosis	2	2	2	2	2	2	2	2	2	2	10 2.0
Infiltration Cellular, Histiocyte	2	2	2	2	2	2	2	2	2	2	10 2.0
Inflammation, Chronic Active	2	2	2	2	2	2	2	2	2	2	10 2.0
Pigmentation	1	1				1					3 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	10 1.0
Goblet Cell, Hyperplasia	1	1		1	1	1			1	1	8 1.0
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	3	3	3	2	3	3	2	2	2	10 2.5
Respiratory Epithelium, Accumulation, Hyaline Droplet	2				2	3	3	2	2	2	7 2.3
Respiratory Epithelium, Hyperplasia	1	1	1	1	1	1	1	1	1	1	10 1.0
Respiratory Epithelium, Metaplasia, Squamous	1	1	1	1	1		1			1	7 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10

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 + .. 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

<b>WISTAR HAN RATS MALE</b>	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	
		3	3	3	3	3	3	3	3	3	3	
<b>400 mg/m3</b>	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	

\* TOTALS

**SPECIAL SENSES SYSTEM**

Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic								1			1 1.0

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active								1			1 1.0
Renal Tubule, Regeneration									1		1 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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

\* .. 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

DAY ON TEST		0	0	0	0	0	0	0	0	0	
<b>WISTAR HAN RATS FEMALE</b>	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	4	4	4	4	4	4	4	4	4	4	
	<hr/>										
<b>0 mg/m3</b>	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	
										<b>* TOTALS</b>	

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Liver	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Pancreas Inflammation, Chronic	+	+	+	+	+	1	+	+	+	+	<b>10</b> <b>1 1.0</b>
Salivary Glands	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**CARDIOVASCULAR SYSTEM**

Blood Vessel	+	+	+	+	+	+	+	+	+	+	<b>10</b>
--------------	---	---	---	---	---	---	---	---	---	---	-----------

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+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID
	9	9	9	9	9	9	9	9	9	9	
4	4	4	4	4	4	4	4	4	4	4	
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	
0	0	0	0	0	0	0	0	0	0	1	
1	2	3	4	5	6	7	8	9	0	0	
<b>* TOTALS</b>											

Heart + + + + + + + + + + **10**

**ENDOCRINE SYSTEM**

Adrenal Cortex + + + + + + + + + + **10**  
 Accessory Adrenal Cortical Nodule X X **2**

Adrenal Medulla + + + + + + + + + + **10**

Islets, Pancreatic + + + + + + + + + + **10**

Parathyroid Gland + + + + + + + + + + **10**

Pituitary Gland + + + + + + + + + + **10**

Thyroid Gland + + + + + + + + + + **10**

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Clitoral Gland + + + + + + + + + + **10**  
 Inflammation, Chronic Active 1 **1 1.0**

Ovary + + + + + + + + + + **10**

Uterus + + + + + + + + + + **10**

**HEMATOPOIETIC 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



WISTAR HAN RATS FEMALE	DAY ON TEST										* TOTALS
	0 9 4	0 9 4	0 9 4	0 9 4	0 9 4	0 9 4	0 9 4	0 9 4	0 9 4	0 9 4	
0 mg/m3	ANIMAL ID										
	0 1 0 1	0 1 0 2	0 1 0 3	0 1 0 4	0 1 0 5	0 1 0 6	0 1 0 7	0 1 0 8	0 1 0 9	0 1 0 0	
Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	M	+	M	+	+	M	+	+	+	7
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Mediastinal	+	+	+	+	+	+	+	M	+	+	9
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10
<b>INTEGUMENTARY SYSTEM</b>											
Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10
<b>MUSCULOSKELETAL SYSTEM</b>											
Bone	+	+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>											
Brain	+	+	+	+	+	+	+	+	+	+	10
<b>RESPIRATORY SYSTEM</b>											
Larynx	+	+	+	+	+	+	+	+	+	+	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

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
WISTAR HAN RATS FEMALE	4	4	4	4	4	4	4	4	4	4	
0 mg/m3											
ANIMAL ID	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	0	1
	1	2	3	4	5	6	7	8	9	0	* TOTALS
Inflammation, Chronic			1								1 1.0
Lung	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active		1			1		1				3 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10
<b>SPECIAL SENSES SYSTEM</b>											
Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic						1					1 1.0
<b>URINARY SYSTEM</b>											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active									1		1 1.0
Pelvis, Inflammation, Chronic	3										1 3.0
Renal Tubule, Regeneration								1			1 1.0
Transitional Epithelium, Hyperplasia	3										1 3.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10
Transitional Epithelium, Hyperplasia	1										1 1.0

\* .. 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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

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

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

<b>WISTAR HAN RATS FEMALE</b>	DAY ON TEST	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	
		4	4	4	4	4	4	4	4	4	
<b>25 mg/m3</b>	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	<b>* TOTALS</b>

**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

WISTAR HAN RATS FEMALE	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	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		4	4	4	4	4	4	4	4	4	4	4	4	4	4
25 mg/m3	ANIMAL ID	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	
		3	3	3	3	3	3	3	3	3	3	3	3	3	
		0	0	0	0	0	0	0	0	0	0	0	1	0	
		1	2	3	4	5	6	7	8	9	0				
<b>* TOTALS</b>															

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Hyperplasia, Squamous		1	1	1	1		1	1	1	1	<b>8 1.0</b>
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Metaplasia, Squamous	2	2	2	2	2	2	2	2	2	2	<b>10 2.0</b>
Lung	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Metaplasia, Osseous							1				<b>1 1.0</b>
Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	2	2	<b>10 2.0</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	2	2	<b>10 2.0</b>

**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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

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

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

<b>WISTAR HAN RATS FEMALE</b>	DAY ON TEST	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	
		4	4	4	4	4	4	4	4	4	
<b>50 mg/m3</b>	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	<b>* TOTALS</b>

**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

<b>WISTAR HAN RATS FEMALE</b>	DAY ON TEST	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
<b>50 mg/m3</b>	ANIMAL ID	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	5	5
		0	0	0	0	0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0				
<b>* TOTALS</b>															

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Hyperplasia, Squamous		1					1		1	1	<b>4 1.0</b>
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Metaplasia, Squamous	2	2	2	2	2	3	2	2	2	2	<b>10 2.1</b>
Lung	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Fibrosis	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Infiltration Cellular, Histiocyte									1		<b>1 1.0</b>
Inflammation, Chronic Active	1	1		1	2	1	1	1	1	1	<b>9 1.1</b>
Metaplasia, Squamous			2								<b>1 2.0</b>
Nose	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Foreign Body							X				<b>1</b>
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	<b>10 1.0</b>
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	3	2	3	1	2	3	3	3	2	<b>10 2.4</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	3		3	1	2	3	3	3	2	<b>9 2.4</b>

**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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

<b>WISTAR HAN RATS FEMALE</b>	DAY ON TEST	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		
		4	4	4	4	4	4	4	4	4		
<b>50 mg/m3</b>	ANIMAL ID	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		
		0	0	0	0	0	0	0	0	1		
		1	2	3	4	5	6	7	8	9	0	<b>* TOTALS</b>

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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

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

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

<b>WISTAR HAN RATS FEMALE</b>	DAY ON TEST	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	
		4	4	4	4	4	4	4	4	4	
<b>100 mg/m3</b>	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	<b>* TOTALS</b>

**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



WISTAR HAN RATS FEMALE	DAY ON TEST	0	0	0	0	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
100 mg/m3		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		4	4	4	4	4	4	4	4	4	4	4	4	4	4
		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
		7	7	7	7	7	7	7	7	7	7	7	7	7	7
		0	0	0	0	0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0				

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia, Squamous		2	1		1	2		1	2	1	7 1.4
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10 1.0
Metaplasia, Squamous	2	3	3	2	2	3	3	3	3	3	10 2.7
Lung	+	+	+	+	+	+	+	+	+	+	10
Fibrosis	1	1	1	1	1	1	1	1	1	1	10 1.0
Infiltration Cellular, Histiocyte	1	1	1	2	1	1	2	1	2	1	10 1.3
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10 1.0
Mineralization				1							1 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	10 1.0
Goblet Cell, Hyperplasia	1	1				1					3 1.0
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	2	3	2	3	3	3	3	2	3	10 2.6
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	2	3	2	3	3	3	3	2	3	10 2.6
Respiratory Epithelium, Hyperplasia	1										1 1.0
Respiratory Epithelium, Metaplasia, Squamous	1	1									2 1.0

**SPECIAL SENSES 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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

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

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

		0	0	0	0	0	0	0	0	0	
DAY ON TEST		0	0	0	0	0	0	0	0	0	
<b>WISTAR HAN RATS FEMALE</b>		9	9	9	9	9	9	9	9	9	
<b>100 mg/m3</b>		4	4	4	4	4	4	4	4	4	
ANIMAL ID		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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
<b>* TOTALS</b>											

**URINARY SYSTEM**

Kidney	+										1
Infarct, Multiple	2										1 2.0

\* .. 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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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

Lab: BNW

WISTAR HAN RATS FEMALE	DAY ON TEST	0	0	0	0	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
200 mg/m3		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		4	4	4	4	4	4	4	4	4	4	4	4	4	4
		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
		0	0	0	0	0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0				
<b>* TOTALS</b>															

ALIMENTARY SYSTEM

Liver	+														1	
Fibrosis	1															1 1.0
Serosa, Mineralization	1															1 1.0

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node																1
Renal, Infiltration Cellular, Mixed Cell																2 1 2.0

INTEGUMENTARY 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

DAY ON TEST		0	0	0	0	0	0	0	0	0	
<b>WISTAR HAN RATS FEMALE</b>	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	4	4	4	4	4	4	4	4	4	4	
	<hr/>										
<b>200 mg/m3</b>	ANIMAL ID	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	<b>* TOTALS</b>

**MUSCULOSKELETAL SYSTEM**

Bone	+	1	
Maxilla, Inflammation, Chronic Active	2	1	2.0

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	10	
Hyperplasia, Squamous	2	1	1	2	2	1	1			2	8	1.5
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10	1.0
Metaplasia, Squamous	3	3	3	3	4	3	3	3	2	4	10	3.1
Lung	+	+	+	+	+	+	+	+	+	+	10	
Fibrosis	1	1	1	1	1	1	1	1	1	1	10	1.0
Infiltration Cellular, Histiocyte	2	1	2	2	2	2	2	2	2	2	10	1.9
Inflammation, Chronic Active	1	1	2	1	1	1	1	1	1	1	10	1.1
Nose	+	+	+	+	+	+	+	+	+	+	10	
Foreign Body					X						1	
Inflammation, Suppurative	1	1	1	1	1	1	1	1	1	1	10	1.0
Goblet Cell, Hyperplasia	1		1	1	1	1	1	1	1	1	9	1.0
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	3	3	3	2	2	3	3	3	2	10	2.6
Respiratory Epithelium, Accumulation, Hyaline Droplet	2	3	3	3	2	2	3	3	3	2	10	2.6
Respiratory Epithelium, Hyperplasia	1	1	1	1	1	1	1	1	1	1	10	1.0

\* .. 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 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

CAS Number: TRIMVX

Date Report Requested: 03/18/2011

Time Report Requested: 13:35:18

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	ANIMAL ID											
	9	9	9	9	9	9	9	9	9	9												
4	4	4	4	4	4	4	4	4	4	4	1	2	3	4	5	6	7	8	9	0	* TOTALS	
WISTAR HAN RATS FEMALE																						
200 mg/m3																						
Respiratory Epithelium, Metaplasia, Squamous	1				1	1				1	1									5	1.0	

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney											+									1		
Dilatation											3										1	3.0
Bilateral, Pelvis, Inflammation, Chronic Active											3										1	3.0

\* .. 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

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
WISTAR HAN RATS FEMALE	4	4	4	4	4	4	4	4	4	4	
400 mg/m3											
ANIMAL ID	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
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
Heart	+	+	+	+	+	+	+	+	+	+	10

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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
9	9	9	9	9	9	9	9	9	9	9
4	4	4	4	4	4	4	4	4	4	4
ANIMAL ID	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
0	0	0	0	0	0	0	0	0	0	1
1	2	3	4	5	6	7	8	9	0	
<b>* TOTALS</b>										

**ENDOCRINE SYSTEM**

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Accessory Adrenal Cortical Nodule			X					X	X		<b>3</b>
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Parathyroid Gland	+	+	+	+	+	+	M	+	+	+	<b>9</b>
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Inflammation, Chronic			1			1	1				<b>3 1.0</b>
Ovary	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Oviduct								+			<b>1</b>
Infiltration Cellular, Polymorphonuclear								1			<b>1 1.0</b>
Uterus	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Endometrium, Hyperplasia, Cystic					1		2				<b>2 1.5</b>

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WISTAR HAN RATS FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
400 mg/m3		9	9	9	9	9	9	9	9	9	
		4	4	4	4	4	4	4	4	4	
	ANIMAL ID	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	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
<b>* TOTALS</b>											

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Lymph Node	+										<b>1</b>
Deep Cervical, Infiltration Cellular, Polymorphonuclear	2										<b>1 2.0</b>
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	M	<b>9</b>
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Spleen	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Thymus	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**INTEGUMENTARY SYSTEM**

Mammary Gland	+	+	+	+	+	+	+	+	+	+	<b>10</b>
Skin	+	+	+	+	+	+	+	+	+	+	<b>10</b>

**MUSCULOSKELETAL SYSTEM**

Bone	+	+	+	+	+	+	+	+	+	+	<b>10</b>
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**NERVOUS SYSTEM**

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID
	9	9	9	9	9	9	9	9	9	9	
4	4	4	4	4	4	4	4	4	4	4	
	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	
<b>* TOTALS</b>											

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

**RESPIRATORY SYSTEM**

Larynx + + + + + + + + + + **10**

Hyperplasia, Squamous 1 2 2 2 2 2 1 2 2 2 **10 1.8**

Inflammation, Chronic Active 1 1 1 1 1 1 1 1 1 1 **10 1.0**

Metaplasia, Squamous 3 3 4 3 4 3 3 4 4 3 **10 3.4**

Lung + + + + + + + + + + **10**

Fibrosis 2 2 2 2 2 2 2 2 2 2 **10 2.0**

Infiltration Cellular, Histiocyte 2 2 2 2 2 2 2 2 2 2 **10 2.0**

Inflammation, Chronic Active 2 2 2 2 2 2 2 2 2 2 **10 2.0**

Nose + + + + + + + + + + **10**

Inflammation, Suppurative 1 1 1 1 1 1 1 1 1 1 **10 1.0**

Goblet Cell, Hyperplasia 1 1 1 1 1 1 1 1 1 1 **9 1.0**

Olfactory Epithelium, Accumulation, Hyaline Droplet 3 2 3 3 3 2 2 3 2 3 **10 2.6**

Respiratory Epithelium, Accumulation, Hyaline Droplet 3 2 3 3 3 2 2 3 2 3 **10 2.6**

Respiratory Epithelium, Hyperplasia 1 1 1 1 1 1 1 1 1 1 **10 1.0**

Respiratory Epithelium, Metaplasia, Squamous 1 1 1 1 1 1 1 1 1 1 **7 1.0**

Trachea + + + + + + + + + + **10**

**SPECIAL SENSES SYSTEM**

Eye + + + + + + + + + + **10**

Harderian Gland + + + + + + + + + + **10**

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TDMS No. 20523 - 01

Test Type: 90-DAY

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Species/Strain: RATS/Wistar Han

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Trim VX)

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Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID		
	9	9	9	9	9	9	9	9	9	9			
<b>WISTAR HAN RATS FEMALE</b>	4	4	4	4	4	4	4	4	4	4			
<b>400 mg/m3</b>	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			<b>* TOTALS</b>
Inflammation, Chronic			1						1				<b>2 1.0</b>
<b>URINARY SYSTEM</b>													
Kidney	+	+	+	+	+	+	+	+	+	+			<b>10</b>
Pelvis, Inflammation, Chronic Active	3												<b>1 3.0</b>
Renal Tubule, Regeneration	1												<b>1 1.0</b>
Transitional Epithelium, Hyperplasia	2												<b>1 2.0</b>
Urinary Bladder	+	+	+	+	+	+	+	+	+	+			<b>10</b>

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

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