

**TDMS No.** 20523 - 01

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH  
AVERAGE SEVERITY GRADES[b]**

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

**Test Type:** 90-DAY

Metal working fluids (Trim VX)

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

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**CAS Number:** TRIMVX

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

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

**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

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Wistar Han RATS MALE	0 mg/m3	25 mg/m3	50 mg/m3	100 mg/m3	200 mg/m3	400 mg/m3
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**Disposition Summary**

Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Survivors						
Terminal Sacrifice	10	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10	10

## ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active						1 [1.0]
Metaplasia, Squamous						1 [1.0]
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(1)	(0)	(0)	(0)	(10)
Inflammation, Focal, Chronic Active		1 [4.0]				
Pancreas	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active	1 [1.0]					
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active						1 [1.0]
Stomach, Glandular	(10)	(0)	(0)	(1)	(0)	(10)
Atrophy				1 [2.0]		

## CARDIOVASCULAR SYSTEM

Blood Vessel	(10)	(0)	(0)	(0)	(0)	(10)
Heart	(10)	(0)	(0)	(0)	(0)	(10)
Cardiomyopathy	1 [1.0]					1 [1.0]

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

b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

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## ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(0)	(10)
Accessory Adrenal Cortical Nodule	4					2
Adrenal Medulla	(10)	(0)	(0)	(0)	(0)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(0)	(9)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(9)
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Epididymis	(10)	(0)	(0)	(0)	(0)	(10)
Preputial Gland	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic	3 [1.7]					2 [1.0]
Prostate	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic	1 [2.0]					2 [1.5]
Inflammation, Chronic Active	1 [1.0]					
Seminal Vesicle	(10)	(0)	(0)	(0)	(0)	(10)
Testes	(10)	(0)	(0)	(1)	(0)	(10)
Germinal Epithelium, Degeneration				1 [2.0]		

## HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Bronchial	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Mediastinal	(10)	(0)	(0)	(0)	(0)	(9)
Hyperplasia, Lymphoid						1 [3.0]
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(10)

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Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Thymus	(10)	(0)	(0)	(0)	(0)	(10)
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(2)	(0)	(0)	(0)	(0)	(1)
Skin	(10)	(0)	(1)	(0)	(0)	(10)
Ulcer			1 [3.0]			
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(10)	(0)	(0)	(0)	(0)	(10)
<b>NERVOUS SYSTEM</b>						
Brain	(10)	(0)	(0)	(0)	(0)	(10)
<b>RESPIRATORY SYSTEM</b>						
Larynx	(10)	(10)	(10)	(10)	(10)	(10)
Hyperplasia, Squamous		8 [1.0]	8 [1.4]	7 [1.0]	10 [1.5]	10 [2.4]
Inflammation, Chronic Active		10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]
Metaplasia, Squamous		10 [2.1]	10 [2.5]	10 [2.5]	10 [3.4]	10 [3.4]
Ulcer		1 [1.0]				
Lung	(10)	(10)	(10)	(10)	(10)	(10)
Fibrosis			10 [1.0]	10 [1.0]	10 [1.1]	10 [2.0]
Infiltration Cellular, Histiocyte			1 [1.0]	10 [1.2]	10 [2.0]	10 [2.0]
Inflammation, Chronic Active			8 [1.0]	10 [1.0]	10 [1.1]	10 [2.0]
Metaplasia, Osseous		2 [1.0]	4 [1.0]			
Pigmentation			3 [1.0]	3 [1.0]	1 [1.0]	3 [1.0]
Artery, Mineralization	1 [2.0]					
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Inflammation, Suppurative		10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]

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Inflammation, Chronic	1 [1.0]					
Necrosis	1 [1.0]					
Goblet Cell, Hyperplasia			1 [1.0]	3 [1.0]	10 [1.0]	8 [1.0]
Olfactory Epithelium, Accumulation, Hyaline Droplet	1 [1.0]	10 [1.7]	10 [2.0]	10 [2.3]	10 [2.7]	10 [2.5]
Respiratory Epithelium, Accumulation, Hyaline Droplet		10 [1.7]	10 [2.0]	10 [2.3]	10 [2.7]	7 [2.3]
Respiratory Epithelium, Hyperplasia					9 [1.0]	10 [1.0]
Respiratory Epithelium, Metaplasia, Squamous					4 [1.0]	7 [1.0]
Respiratory Epithelium, Necrosis					1 [1.0]	
Trachea	(10)	(0)	(0)	(0)	(0)	(10)

## SPECIAL SENSES SYSTEM

Eye	(10)	(0)	(0)	(0)	(0)	(10)
Harderian Gland	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic	2 [1.0]					1 [1.0]

## URINARY SYSTEM

Kidney	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation	1 [1.0]					
Inflammation, Chronic Active	1 [1.0]					1 [1.0]
Renal Tubule, Regeneration	2 [1.0]					1 [1.0]
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

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

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**Disposition Summary**

Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Survivors						
Terminal Sacrifice	10	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10	10

## ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(0)	(0)	(0)	(1)	(10)
Fibrosis					1 [1.0]	
Serosa, Mineralization					1 [1.0]	
Pancreas	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic	1 [1.0]					
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(0)	(10)

## CARDIOVASCULAR SYSTEM

Blood Vessel	(10)	(0)	(0)	(0)	(0)	(10)
Heart	(10)	(0)	(0)	(0)	(0)	(10)

## ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(0)	(10)
Accessory Adrenal Cortical Nodule	2					3

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Wistar Han RATS FEMALE	0 mg/m3	25 mg/m3	50 mg/m3	100 mg/m3	200 mg/m3	400 mg/m3
Adrenal Medulla	(10)	(0)	(0)	(0)	(0)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(0)	(9)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Clitoral Gland	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic						3 [1.0]
Inflammation, Chronic Active	1 [1.0]					
Ovary	(10)	(0)	(0)	(0)	(0)	(10)
Oviduct	(0)	(0)	(0)	(0)	(0)	(1)
Infiltration Cellular, Polymorphonuclear						1 [1.0]
Uterus	(10)	(0)	(0)	(0)	(0)	(10)
Endometrium, Hyperplasia, Cystic						2 [1.5]

## HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node	(0)	(0)	(0)	(0)	(1)	(1)
Deep Cervical, Infiltration Cellular, Polymorphonuclear						1 [2.0]
Renal, Infiltration Cellular, Mixed Cell					1 [2.0]	
Lymph Node, Bronchial	(7)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(0)	(9)
Lymph Node, Mediastinal	(9)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(10)
Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Thymus	(10)	(0)	(0)	(0)	(0)	(10)

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Wistar Han RATS FEMALE	0 mg/m3	25 mg/m3	50 mg/m3	100 mg/m3	200 mg/m3	400 mg/m3
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Skin	(10)	(0)	(0)	(0)	(0)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(10)	(0)	(0)	(0)	(1)	(10)
Maxilla, Inflammation, Chronic Active					1 [2.0]	
<b>NERVOUS SYSTEM</b>						
Brain	(10)	(0)	(0)	(0)	(0)	(10)
<b>RESPIRATORY SYSTEM</b>						
Larynx	(10)	(10)	(10)	(10)	(10)	(10)
Hyperplasia, Squamous		8 [1.0]	4 [1.0]	7 [1.4]	8 [1.5]	10 [1.8]
Inflammation, Chronic	1 [1.0]					
Inflammation, Chronic Active		10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]
Metaplasia, Squamous		10 [2.0]	10 [2.1]	10 [2.7]	10 [3.1]	10 [3.4]
Lung	(10)	(10)	(10)	(10)	(10)	(10)
Fibrosis			10 [1.0]	10 [1.0]	10 [1.0]	10 [2.0]
Infiltration Cellular, Histiocyte			1 [1.0]	10 [1.3]	10 [1.9]	10 [2.0]
Inflammation, Chronic Active	3 [1.0]		9 [1.1]	10 [1.0]	10 [1.1]	10 [2.0]
Metaplasia, Osseous		1 [1.0]				
Metaplasia, Squamous			1 [2.0]			
Mineralization				1 [1.0]		
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Foreign Body			1		1	
Inflammation, Suppurative		10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]	10 [1.0]
Goblet Cell, Hyperplasia				3 [1.0]	9 [1.0]	9 [1.0]

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Wistar Han RATS FEMALE	0 mg/m3	25 mg/m3	50 mg/m3	100 mg/m3	200 mg/m3	400 mg/m3
Olfactory Epithelium, Accumulation, Hyaline Droplet		10 [2.0]	10 [2.4]	10 [2.6]	10 [2.6]	10 [2.6]
Respiratory Epithelium, Accumulation, Hyaline Droplet		10 [2.0]	9 [2.4]	10 [2.6]	10 [2.6]	10 [2.6]
Respiratory Epithelium, Hyperplasia				1 [1.0]	10 [1.0]	10 [1.0]
Respiratory Epithelium, Metaplasia, Squamous				2 [1.0]	5 [1.0]	7 [1.0]
Trachea	(10)	(0)	(0)	(0)	(0)	(10)
<b>SPECIAL SENSES SYSTEM</b>						
Eye	(10)	(0)	(0)	(0)	(0)	(10)
Harderian Gland	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic	1 [1.0]					2 [1.0]
<b>URINARY SYSTEM</b>						
Kidney	(10)	(0)	(0)	(1)	(1)	(10)
Dilatation					1 [3.0]	
Infarct, Multiple				1 [2.0]		
Inflammation, Chronic Active	1 [1.0]					
Bilateral, Pelvis, Inflammation, Chronic Active					1 [3.0]	
Pelvis, Inflammation, Chronic	1 [3.0]					
Pelvis, Inflammation, Chronic Active						1 [3.0]
Renal Tubule, Regeneration	1 [1.0]					1 [1.0]
Transitional Epithelium, Hyperplasia	1 [3.0]					1 [2.0]
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)
Transitional Epithelium, Hyperplasia	1 [1.0]					

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

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