

**TDMs No.** 99013 - 05

**P05: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)**

**Date Report Requested:** 09/23/2010

**Test Type:** Chronic PN

Styrene-acrylonitrile trimer

**Time Report Requested:** 14:33:32

**Route:** DOSED FEED

**CAS Number:** SANTRIMER2

**First Dose M/F:** 05/12/05 / 05/13/05

**Species/Strain:** RATS/F 344/N

**Lab:** BAT

F2\_R2

**C Number:** C99013  
**Lock Date:** 03/27/2008  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 2.2.0

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FISCHER 344 RATS MALE	0 PPM	400 PPM	800 PPM	1600 PPM
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**Disposition Summary**

<b>Animals Initially In Study</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>Early Deaths</b>				
<b>Moribund Sacrifice</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>4</b>
<b>Natural Death</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>2</b>
<b>Survivors</b>				
<b>Terminal Sacrifice</b>	<b>36</b>	<b>39</b>	<b>39</b>	<b>44</b>
<b>Animals Examined Microscopically</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>

## ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(49)	(50)	(50)	(50)
Intestine Large, Colon	(50)	(50)	(50)	(50)
Adenoma	1 (2%)	2 (4%)		
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Intestine Small, Duodenum	(50)	(50)	(50)	(50)
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Intestine Small, Jejunum	(50)	(50)	(50)	(50)
Adenoma				1 (2%)
Leiomyosarcoma			1 (2%)	
Liver	(50)	(50)	(50)	(50)
Hemangiosarcoma		1 (2%)		
Thymoma Malignant, Metastatic, Thymus		1 (2%)		
Mesentery	(3)	(5)	(7)	(4)
Leiomyosarcoma, Metastatic, Intestine Small, Jejunum			1 (14%)	
Oral Mucosa	(1)	(0)	(0)	(1)
Pancreas	(50)	(50)	(50)	(50)
Mixed Tumor Benign	1 (2%)			
Acinus, Adenoma	1 (2%)			
Salivary Glands	(50)	(49)	(50)	(50)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Stomach, Glandular	(50)	(50)	(50)	(50)
Tooth	(4)	(4)	(1)	(5)

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

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## CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(50)	(50)	(50)
Heart	(50)	(50)	(50)	(50)
Thymoma Malignant, Metastatic, Thymus	1 (2%)			

## ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Adenoma			1 (2%)	
Hemangiosarcoma, Metastatic, Liver		1 (2%)		
Adrenal Medulla	(50)	(50)	(50)	(50)
Pheochromocytoma Benign	4 (8%)	5 (10%)	3 (6%)	1 (2%)
Pheochromocytoma Complex			1 (2%)	
Pheochromocytoma Malignant		2 (4%)		
Islets, Pancreatic	(50)	(50)	(50)	(50)
Adenoma				1 (2%)
Parathyroid Gland	(35)	(49)	(49)	(37)
Pituitary Gland	(50)	(50)	(50)	(50)
Pars Distalis, Adenoma	16 (32%)	10 (20%)	13 (26%)	4 (8%)
Thyroid Gland	(50)	(50)	(50)	(50)
C-cell, Adenoma	12 (24%)	8 (16%)	6 (12%)	9 (18%)
Follicular Cell, Adenoma	1 (2%)			
Follicular Cell, Carcinoma		1 (2%)	1 (2%)	

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Epididymis	(50)	(50)	(50)	(50)
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FISCHER 344 RATS MALE	0 PPM	400 PPM	800 PPM	1600 PPM
Preputial Gland	(50)	(50)	(50)	(50)
Adenoma		1 (2%)	2 (4%)	2 (4%)
Carcinoma	1 (2%)			
Duct, Adenoma	1 (2%)			
Prostate	(50)	(50)	(50)	(50)
Adenoma				1 (2%)
Seminal Vesicle	(50)	(50)	(50)	(50)
Testes	(50)	(50)	(50)	(50)
Bilateral, Interstitial Cell, Adenoma	33 (66%)	45 (90%)	39 (78%)	49 (98%)
Interstitial Cell, Adenoma	8 (16%)	4 (8%)	5 (10%)	

## HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(7)	(5)	(3)	(3)
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Spleen	(50)	(50)	(50)	(50)
Thymus	(48)	(50)	(50)	(50)
Schwannoma Malignant		1 (2%)		
Thymoma Benign	1 (2%)			
Thymoma Malignant	1 (2%)	1 (2%)		

## INTEGUMENTARY SYSTEM

Mammary Gland	(50)	(50)	(50)	(50)
Fibroadenoma	1 (2%)	2 (4%)	1 (2%)	3 (6%)
Skin	(50)	(50)	(50)	(50)
Keratoacanthoma	2 (4%)	2 (4%)	4 (8%)	5 (10%)
Keratoacanthoma, Multiple		1 (2%)		
Squamous Cell Carcinoma		1 (2%)		
Squamous Cell Papilloma	2 (4%)	1 (2%)	1 (2%)	
Subcutaneous Tissue, Fibroma	5 (10%)	6 (12%)	7 (14%)	5 (10%)
Subcutaneous Tissue, Fibroma, Multiple		1 (2%)		
Subcutaneous Tissue, Fibrosarcoma				1 (2%)
Subcutaneous Tissue, Lipoma	1 (2%)	1 (2%)	1 (2%)	

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FISCHER 344 RATS MALE	0 PPM	400 PPM	800 PPM	1600 PPM
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Subcutaneous Tissue, Sarcoma			1 (2%)	
Subcutaneous Tissue, Schwannoma Malignant		1 (2%)		

## MUSCULOSKELETAL SYSTEM

Bone	(50)	(50)	(50)	(50)
Skeletal Muscle	(1)	(1)	(0)	(0)

## NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
Astrocytoma			1 (2%)	1 (2%)
Carcinoma				1 (2%)
Granular Cell Tumor			1 (2%)	1 (2%)
Thymoma Malignant, Metastatic, Thymus		1 (2%)		
Spinal Cord	(1)	(0)	(0)	(1)
Astrocytoma				1 (100%)

## RESPIRATORY SYSTEM

Lung	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Adenoma	1 (2%)	1 (2%)	1 (2%)	3 (6%)
Alveolar/Bronchiolar Carcinoma		2 (4%)		
Pheochromocytoma Malignant, Metastatic, Adrenal Medulla		1 (2%)		
Squamous Cell Carcinoma		1 (2%)		
Thymoma Malignant, Metastatic, Thymus	1 (2%)	1 (2%)		
Nose	(50)	(50)	(50)	(50)
Chondroma			1 (2%)	

## SPECIAL SENSES SYSTEM

Eye	(50)	(50)	(50)	(50)
Harderian Gland	(50)	(50)	(50)	(50)

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FISCHER 344 RATS MALE	0 PPM	400 PPM	800 PPM	1600 PPM
Zymbal's Gland Carcinoma	(1) 1 (100%)	(0)	(1) 1 (100%)	(0)
<b>URINARY SYSTEM</b>				
Kidney	(50)	(50)	(50)	(50)
Lipoma		1 (2%)		
Renal Tubule, Adenoma	1 (2%)			
Urinary Bladder	(50)	(50)	(50)	(50)
Transitional Epithelium, Carcinoma	1 (2%)			
<b>SYSTEMIC LESIONS</b>				
Multiple Organ	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma	1 (2%)			1 (2%)
Leukemia Mononuclear	15 (30%)	7 (14%)	5 (10%)	3 (6%)
Lymphoma Malignant		1 (2%)		
Mesothelioma Malignant	4 (8%)	1 (2%)	1 (2%)	2 (4%)

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\* Number of animals with any tissue examined microscopically

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FISCHER 344 RATS MALE	0 PPM	400 PPM	800 PPM	1600 PPM
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**Tumor Summary for Males**

Total Animals with Primary Neoplasms (b)	49	50	49	49
Total Primary Neoplasms	116	111	98	95
Total Animals with Benign Neoplasms	46	49	47	49
Total Benign Neoplasms	92	91	86	85
Total Animals with Malignant Neoplasms	22	17	11	8
Total Malignant Neoplasms	24	20	11	8
Total Animals with Metastatic Neoplasms	1	3	1	
Total Metastatic Neoplasms	2	5	1	
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain- Benign or Malignant			1	2
Total Uncertain Neoplasms			1	2

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

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

b - Primary tumors: all tumors except metastatic tumors

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Lab: BAT

FISCHER 344 RATS FEMALE	0 PPM	400 PPM	800 PPM	1600 PPM
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**Disposition Summary**

Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	4	10	6	3
Natural Death	5	2	7	1
Survivors				
Terminal Sacrifice	41	38	37	46
Animals Examined Microscopically	50	50	50	50

## ALIMENTARY SYSTEM

Intestine Large, Cecum	(50)	(50)	(50)	(50)
Intestine Large, Colon	(50)	(50)	(50)	(50)
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Carcinoma				1 (2%)
Intestine Small, Ileum	(50)	(50)	(50)	(50)
Adenoma			1 (2%)	
Liver	(50)	(50)	(50)	(50)
Mesentery	(11)	(7)	(11)	(4)
Oral Mucosa	(2)	(0)	(0)	(1)
Gingival, Squamous Cell Carcinoma	1 (50%)			
Pharyngeal, Squamous Cell Carcinoma				1 (100%)
Pancreas	(50)	(50)	(50)	(50)
Acinus, Adenoma	1 (2%)			
Salivary Glands	(50)	(50)	(50)	(50)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Stomach, Glandular	(50)	(50)	(50)	(50)
Tongue	(0)	(0)	(1)	(0)
Squamous Cell Papilloma			1 (100%)	
Tooth	(5)	(5)	(3)	(1)

## CARDIOVASCULAR SYSTEM

Heart	(50)	(50)	(50)	(50)
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Lab: BAT

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Schwannoma Malignant				1 (2%)

## ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)
Adenoma	1 (2%)		2 (4%)	
Carcinoma				1 (2%)
Adrenal Medulla	(50)	(50)	(50)	(50)
Pheochromocytoma Benign				1 (2%)
Pheochromocytoma Malignant	1 (2%)			1 (2%)
Islets, Pancreatic	(50)	(50)	(50)	(50)
Adenoma	1 (2%)			
Pituitary Gland	(50)	(50)	(50)	(50)
Pars Distalis, Adenoma	22 (44%)	12 (24%)	19 (38%)	9 (18%)
Pars Distalis, Carcinoma			1 (2%)	
Thyroid Gland	(50)	(50)	(50)	(50)
Bilateral, C-cell, Adenoma			1 (2%)	
C-cell, Adenoma	5 (10%)	5 (10%)	5 (10%)	6 (12%)
C-cell, Adenoma, Multiple	1 (2%)			
C-cell, Carcinoma			1 (2%)	
Follicular Cell, Adenoma	1 (2%)			

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Clitoral Gland	(50)	(50)	(50)	(50)
Adenoma	3 (6%)	3 (6%)	2 (4%)	2 (4%)
Ovary	(50)	(50)	(50)	(50)
Oviduct	(1)	(0)	(0)	(0)
Uterus	(50)	(50)	(50)	(50)
Polyp Stromal	6 (12%)	8 (16%)	7 (14%)	8 (16%)

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Polyp Stromal, Multiple		2 (4%)		1 (2%)
Sarcoma Stromal				1 (2%)
Schwannoma Malignant				1 (2%)
Cervix, Schwannoma Malignant	1 (2%)			
Endometrium, Adenoma				1 (2%)
Endometrium, Carcinoma				1 (2%)

## HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(2)	(1)	(1)	(2)
Lymph Node, Mandibular	(0)	(1)	(0)	(0)
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Spleen	(50)	(50)	(50)	(50)
Thymus	(50)	(50)	(50)	(50)
Carcinoma, Metastatic, Zymbal'S Gland		1 (2%)		
Thymoma Benign			1 (2%)	
Thymoma Malignant	1 (2%)			

## INTEGUMENTARY SYSTEM

Mammary Gland	(50)	(50)	(50)	(50)
Adenoma			1 (2%)	
Carcinoma	2 (4%)			1 (2%)
Fibroadenoma	24 (48%)	16 (32%)	15 (30%)	17 (34%)
Fibroadenoma, Multiple	12 (24%)	15 (30%)	11 (22%)	3 (6%)
Skin	(50)	(50)	(50)	(50)
Keratoacanthoma	1 (2%)			1 (2%)
Sebaceous Gland, Adenoma	1 (2%)			
Subcutaneous Tissue, Fibroma			1 (2%)	1 (2%)
Subcutaneous Tissue, Fibrous Histiocytoma				1 (2%)
Subcutaneous Tissue, Lipoma				1 (2%)
Subcutaneous Tissue, Schwannoma Malignant	1 (2%)			

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## MUSCULOSKELETAL SYSTEM

Bone	(50)	(50)	(50)	(50)
Skeletal Muscle	(0)	(0)	(2)	(0)
Rhabdomyosarcoma			1 (50%)	

## NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
Glioma, Mixed Cell	1 (2%)	1 (2%)	1 (2%)	
Granular Cell Tumor		1 (2%)		
Cranial Nerve, Carcinoma, Metastatic, Zymbal'S Gland		1 (2%)		

## RESPIRATORY SYSTEM

Lung	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Adenoma			1 (2%)	
Carcinoma, Metastatic, Zymbal'S Gland		1 (2%)		
Pheochromocytoma Malignant, Metastatic, Adrenal Medulla	1 (2%)			
Nose	(50)	(50)	(50)	(50)

## SPECIAL SENSES SYSTEM

Eye	(50)	(50)	(50)	(50)
Zymbal's Gland	(0)	(1)	(0)	(0)
Carcinoma		1 (100%)		

## URINARY SYSTEM

Kidney	(50)	(50)	(50)	(50)
Urinary Bladder	(50)	(50)	(50)	(50)
Transitional Epithelium, Papilloma				1 (2%)

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<b>FISCHER 344 RATS FEMALE</b>	<b>0 PPM</b>	<b>400 PPM</b>	<b>800 PPM</b>	<b>1600 PPM</b>
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SYSTEMIC LESIONS

Multiple Organ	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma		1 (2%)		
Leukemia Mononuclear	13 (26%)	2 (4%)	3 (6%)	2 (4%)
Lymphoma Malignant		1 (2%)		

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\* Number of animals with any tissue examined microscopically

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**Tumor Summary for Females**

Total Animals with Primary Neoplasms (b)	44	41	41	35
Total Primary Neoplasms	100	68	75	64
Total Animals with Benign Neoplasms	42	37	39	34
Total Benign Neoplasms	79	62	68	52
Total Animals with Malignant Neoplasms	19	5	6	12
Total Malignant Neoplasms	20	5	6	12
Total Animals with Metastatic Neoplasms	1	1		
Total Metastatic Neoplasms	1	3		
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain- Benign or Malignant	1	1	1	
Total Uncertain Neoplasms	1	1	1	

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

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b - Primary tumors: all tumors except metastatic tumors