

**Experiment Number:** 99037 - 03

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

**Date Report Requested:** 09/20/2016

**Test Type:** 90-DAY

alpha/beta Thujone mixture

**Time Report Requested:** 11:43:53

**Route:** GAVAGE

**CAS Number:** 76231-76-0

**First Dose M/F:** 08/13/02 / 08/12/02

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

**Lab:** SRI

**NTP Study Number:** C99037B  
**Lock Date:** 04/04/2003  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 3.0.2.3\_002  
**PWG Approval Date:** NONE

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FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	75 MG/KG	100 MG/KG
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**Disposition Summary**

<b>Animals Initially In Study</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>
<b>Early Deaths</b>						
<b>Natural Death</b>					<b>2</b>	<b>7</b>
<b>Survivors</b>						
<b>Natural Death</b>						<b>1</b>
<b>Terminal Sacrifice</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>8</b>	<b>2</b>
<b>Animals Examined Microscopically</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

## ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(10)	(9)
Hemorrhage						1 [2.0]
Inflammation, Chronic Active						1 [2.0]
Intestine Large, Colon	(10)	(0)	(0)	(0)	(9)	(9)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(10)	(9)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(10)	(9)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(8)	(8)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(8)	(6)
Liver	(10)	(3)	(0)	(2)	(10)	(10)
Clear Cell Focus					1 [1.0]	
Hematopoietic Cell Proliferation	3 [1.0]				2 [1.0]	1 [1.0]
Hepatodiaphragmatic Nodule	4	3		1	1	2
Inflammation, Chronic				1 [1.0]	1 [1.0]	1 [2.0]
Vacuolization Cytoplasmic	5 [1.0]				3 [1.0]	
Mesentery	(1)	(0)	(0)	(0)	(0)	(0)
Accessory Spleen	1 [1.0]					
Pancreas	(10)	(0)	(0)	(0)	(10)	(10)
Atrophy						1 [1.0]
Acinus, Vacuolization Cytoplasmic					1 [1.0]	2 [1.5]
Salivary Glands	(10)	(0)	(0)	(0)	(10)	(10)
Parotid Gland, Basophilic Focus	9 [1.2]				4 [1.3]	5 [1.2]
Stomach, Forestomach	(10)	(10)	(10)	(10)	(10)	(10)
Degeneration, Cystic					1 [2.0]	1 [3.0]

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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FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	75 MG/KG	100 MG/KG
Hyperplasia, Squamous Stomach, Glandular Edema Erosion, Focal Hemorrhage Inflammation, Chronic Pigmentation Ulcer	(10)	(10)	(10)	(10)	1 [2.0] (10) 1 [2.0] 1 [2.0] 1 [2.0] 1 [2.0]	1 [2.0] (10) 1 [2.0] 1 [2.0] 1 [2.0] 1 [2.0]
<b>CARDIOVASCULAR SYSTEM</b>						
Heart Cardiomyopathy	(10) 6 [1.2]	(0)	(0)	(0)	(10) 8 [1.3]	(10) 2 [1.0]
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex Accessory Adrenal Cortical Nodule Hypertrophy Adrenal Medulla Parathyroid Gland Pituitary Gland Angiectasis Pars Distalis, Atrophy Pars Distalis, Hemorrhage Pars Distalis, Necrosis Rathke's Cleft, Dilatation Thyroid Gland Ultimobranchial Cyst	(10)	(10)	(10) 1 [2.0]	(10) 1 [3.0]	(10) (10) (10) (10) 1 [3.0] 1 [2.0]	(10) 1 [1.0] (10) (10) (10) 3 [1.0] (10) 4 [1.8] (10) 1 [1.0]
<b>GENERAL BODY SYSTEM</b>						
None						

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<b>GENITAL SYSTEM</b>						
Epididymis	(10)	(0)	(0)	(0)	(10)	(10)
Preputial Gland	(10)	(0)	(0)	(0)	(10)	(10)
Prostate	(10)	(0)	(0)	(0)	(10)	(10)
Infiltration Cellular, Mixed Cell	1 [2.0]					
Seminal Vesicle	(10)	(0)	(0)	(0)	(10)	(10)
Testes	(10)	(0)	(0)	(0)	(10)	(10)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(0)	(0)	(0)	(10)	(10)
Lymph Node	(0)	(0)	(0)	(0)	(0)	(2)
Hyperplasia, Lymphoid						1 [2.0]
Pancreatic, Hemorrhage						1 [1.0]
Lymph Node, Mandibular	(1)	(0)	(0)	(0)	(0)	(0)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(10)	(10)
Spleen	(10)	(0)	(0)	(0)	(10)	(10)
Congestion						4 [2.3]
Pigmentation, Hemosiderin						1 [2.0]
Thymus	(10)	(0)	(0)	(0)	(10)	(10)
Hemorrhage	1 [2.0]				4 [1.3]	6 [1.8]
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(10)	(0)	(0)	(0)	(7)	(8)
Skin	(10)	(0)	(0)	(0)	(10)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(10)	(0)	(0)	(0)	(10)	(10)
Skeletal Muscle	(10)	(0)	(0)	(0)	(2)	(10)

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<b>NERVOUS SYSTEM</b>						
Brain	(10)	(10)	(10)	(10)	(10)	(10)
Congestion					2 [2.0]	6 [1.5]
Hemorrhage					2 [2.0]	4 [1.5]
Pigmentation	1 [1.0]					
Peripheral Nerve	(10)	(0)	(0)	(0)	(2)	(10)
Spinal Cord	(10)	(0)	(0)	(0)	(2)	(10)
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(0)	(10)	(10)
Congestion					1 [2.0]	8 [1.6]
Hemorrhage	7 [1.1]				4 [1.3]	
Inflammation, Acute						1 [1.0]
Inflammation, Chronic	1 [1.0]					
Nose	(10)	(0)	(0)	(0)	(10)	(10)
Olfactory Epithelium, Degeneration					1 [1.0]	
Trachea	(10)	(0)	(0)	(0)	(10)	(10)
<b>SPECIAL SENSES SYSTEM</b>						
Eye	(10)	(0)	(0)	(0)	(10)	(10)
Harderian Gland	(10)	(0)	(0)	(0)	(10)	(10)
Hemorrhage	1 [2.0]					
Inflammation, Acute	1 [1.0]					
<b>URINARY SYSTEM</b>						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Nephropathy	8 [1.0]	10 [1.0]	10 [1.0]	10 [1.2]	9 [1.1]	9 [1.4]
Renal Tubule, Mineralization	1 [1.0]	1 [1.0]	2 [1.0]	1 [1.0]	1 [1.0]	3 [1.0]
Renal Tubule, Necrosis						1 [2.0]
Urinary Bladder	(10)	(0)	(0)	(0)	(10)	(10)

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FISCHER 344 RATS MALE

0 MG/KG

12.5 MG/KG

25 MG/KG

50 MG/KG

75 MG/KG

100 MG/KG

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

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FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	75 MG/KG	100 MG/KG
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**Disposition Summary**

<b>Animals Initially In Study</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>
<b>Early Deaths</b>						
<b>Natural Death</b>					<b>8</b>	<b>9</b>
<b>Survivors</b>						
<b>Terminal Sacrifice</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>2</b>	<b>1</b>
<b>Animals Examined Microscopically</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

## ALIMENTARY SYSTEM

Esophagus	(10)	(0)	(0)	(10)	(10)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(10)	(9)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(10)	(10)	(10)
Hemorrhage					1 [1.0]	
Intestine Large, Rectum	(10)	(0)	(0)	(10)	(10)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(10)	(10)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(10)	(8)	(9)
Intestine Small, Jejunum	(10)	(0)	(0)	(10)	(9)	(10)
Liver	(10)	(1)	(2)	(10)	(10)	(10)
Hematopoietic Cell Proliferation	2 [1.0]			4 [1.0]	2 [1.5]	1 [1.0]
Hepatodiaphragmatic Nodule	1	1	2	2	1	
Inflammation, Chronic	6 [1.2]					
Necrosis					1 [1.0]	
Vacuolization Cytoplasmic					2 [1.5]	
Pancreas	(10)	(0)	(0)	(10)	(10)	(10)
Inflammation, Chronic						1 [1.0]
Acinus, Vacuolization Cytoplasmic					1 [2.0]	
Salivary Glands	(10)	(0)	(0)	(10)	(10)	(10)
Parotid Gland, Basophilic Focus	4 [1.0]			6 [1.5]	3 [1.0]	9 [1.2]
Parotid Gland, Necrosis, Focal	1 [1.0]					
Stomach, Forestomach	(10)	(10)	(10)	(10)	(10)	(10)
Degeneration, Cystic					1 [2.0]	1 [2.0]
Edema					1 [2.0]	
Stomach, Glandular	(10)	(10)	(10)	(10)	(10)	(10)
Edema					1 [2.0]	3 [2.0]

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FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	75 MG/KG	100 MG/KG
Hemorrhage						2 [1.0]
Infiltration Cellular, Eosinophil				1 [2.0]		
Inflammation, Chronic				1 [2.0]		
Mineralization				1 [1.0]		
<b>CARDIOVASCULAR SYSTEM</b>						
Heart	(10)	(0)	(0)	(10)	(10)	(10)
Cardiomyopathy	2 [1.0]			1 [1.0]		2 [1.0]
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(10)	(10)	(10)	(10)	(10)	(10)
Adrenal Medulla	(10)	(10)	(10)	(10)	(10)	(10)
Parathyroid Gland	(10)	(0)	(0)	(9)	(10)	(8)
Pituitary Gland	(10)	(10)	(10)	(10)	(10)	(10)
Angiectasis					1 [3.0]	1 [2.0]
Congestion				1 [2.0]		
Pars Distalis, Atrophy					3 [2.7]	3 [3.0]
Pars Distalis, Necrosis				1 [4.0]	1 [4.0]	
Rathke's Cleft, Dilatation			1 [1.0]	5 [1.0]	4 [1.8]	5 [2.0]
Thyroid Gland	(10)	(0)	(0)	(10)	(10)	(10)
Ectopic Thymus				1	1	
<b>GENERAL BODY SYSTEM</b>						
None						
<b>GENITAL SYSTEM</b>						
Clitoral Gland	(10)	(0)	(0)	(10)	(10)	(10)
Ovary	(10)	(10)	(10)	(10)	(10)	(10)
Cyst	2	2		1		

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FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	75 MG/KG	100 MG/KG
Uterus	(10)	(3)	(1)	(10)	(10)	(10)
Dilatation	2 [2.0]	2 [1.0]	1 [2.0]	1 [2.0]		1 [1.0]
Vagina	(10)	(10)	(10)	(10)	(10)	(10)
Cyst		1				
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(0)	(0)	(10)	(10)	(10)
Lymph Node	(0)	(1)	(3)	(2)	(0)	(1)
Hemorrhage			1 [2.0]	1 [2.0]		
Hyperplasia, Lymphoid		1 [1.0]				
Pancreatic, Hemorrhage				2 [2.0]		1 [2.0]
Pancreatic, Infiltration Cellular, Histiocyte			2 [2.0]			
Lymph Node, Mesenteric	(10)	(0)	(0)	(10)	(10)	(10)
Hyperplasia, Lymphoid				1 [2.0]	1 [2.0]	
Spleen	(10)	(0)	(0)	(10)	(10)	(10)
Atrophy					1 [2.0]	1 [2.0]
Thymus	(10)	(0)	(0)	(10)	(10)	(10)
Hemorrhage					4 [1.0]	4 [1.5]
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(10)	(0)	(0)	(10)	(10)	(10)
Skin	(10)	(0)	(0)	(10)	(10)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(10)	(0)	(0)	(10)	(10)	(10)
Skeletal Muscle	(10)	(0)	(0)	(0)	(2)	(10)
<b>NERVOUS SYSTEM</b>						
Brain	(10)	(10)	(10)	(10)	(10)	(10)

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FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	75 MG/KG	100 MG/KG
Congestion					3 [1.7]	8 [1.5]
Hemorrhage					4 [1.5]	3 [2.0]
Pigmentation			1 [1.0]	6 [1.2]	5 [1.0]	4 [1.3]
Peripheral Nerve	(10)	(0)	(0)	(0)	(2)	(10)
Spinal Cord	(10)	(0)	(0)	(0)	(4)	(10)
Congestion						2 [2.0]
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(10)	(10)	(10)
Congestion					2 [2.0]	4 [1.8]
Hemorrhage	8 [1.3]			3 [1.0]		
Alveolus, Infiltration Cellular, Histiocyte, Focal	1 [1.0]				1 [1.0]	
Nose	(10)	(0)	(0)	(10)	(10)	(10)
Trachea	(10)	(0)	(0)	(10)	(10)	(10)
<b>SPECIAL SENSES SYSTEM</b>						
Eye	(10)	(0)	(0)	(10)	(10)	(10)
Harderian Gland	(10)	(0)	(0)	(10)	(10)	(10)
<b>URINARY SYSTEM</b>						
Kidney	(10)	(10)	(10)	(10)	(10)	(10)
Nephropathy			1 [1.0]	3 [2.0]	2 [1.0]	3 [1.0]
Renal Tubule, Degeneration						1 [1.0]
Renal Tubule, Mineralization	3 [1.0]	8 [1.0]	8 [1.0]	8 [1.0]	10 [1.0]	9 [1.0]
Renal Tubule, Necrosis					1 [2.0]	
Urinary Bladder	(10)	(0)	(0)	(10)	(10)	(10)

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

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