

**Experiment Number:** 20702 - 01  
**Test Type:** 90-DAY  
**Route:** DOSED FEED  
**Species/Strain:** RATS/F 344/NCTR

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**

Usnea Lichen  
**CAS Number:** USNEALICHEN

**Date Report Requested:** 12/03/2020  
**Time Report Requested:** 12:51:12  
**First Dose M/F:** 02/14/09 / 02/14/09  
**Lab:** NCTR

**NTP Study Number:** C20702  
**Lock Date:** 07/01/2013  
**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-NCTR RATS MALE	Control 0 PPM	USNEA 30 PPM	USNEA 60 PPM	USNEA 120 PPM	USNEA 360 PPM	USNEA 720 PPM
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**Disposition Summary**

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

**ALIMENTARY SYSTEM**

Esophagus	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(10)	(9)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(10)	(9)
Liver	(10)	(10)	(10)	(10)	(10)	(10)
Cyst				1 (10%)		
Deformity		1 (10%)				
Inflammation, Chronic Active	5 (50%)	1 (10%)	3 (30%)	4 (40%)	3 (30%)	
Necrosis		1 (10%)				
Tension Lipidosis					1 (10%)	
Hepatocyte, Degeneration	1 (10%)		1 (10%)	6 (60%)	10 (100%)	10 (100%)
Pancreas	(10)	(0)	(0)	(0)	(10)	(10)
Infiltration Cellular, Lymphocyte						1 (10%)
Vacuolization Cytoplasmic	1 (10%)					
Salivary Glands	(10)	(0)	(0)	(0)	(10)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(10)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(10)	(10)

**CARDIOVASCULAR SYSTEM**

Blood Vessel	(10)	(0)	(0)	(0)	(10)	(10)
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a - Number of animals examined microscopically at site and number of animals with lesion

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FISCHER 344 RATS-NCTR RATS MALE	Control 0 PPM	USNEA 30 PPM	USNEA 60 PPM	USNEA 120 PPM	USNEA 360 PPM	USNEA 720 PPM
Heart	(10)	(0)	(0)	(0)	(10)	(10)
Cardiomyopathy	7 (70%)				7 (70%)	
Myocardium, Vacuolization Cytoplasmic						1 (10%)
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(10)	(0)	(0)	(0)	(10)	(10)
Vacuolization Cytoplasmic	4 (40%)				2 (20%)	10 (100%)
Adrenal Medulla	(10)	(0)	(0)	(0)	(10)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(10)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(10)	(10)
Pituitary Gland	(10)	(0)	(0)	(0)	(10)	(10)
Thyroid Gland	(10)	(0)	(0)	(0)	(10)	(10)
Ectopic Thymus	1 (10%)					1 (10%)
<b>GENERAL BODY SYSTEM</b>						
Tissue NOS	(1)	(0)	(0)	(0)	(0)	(0)
Mediastinum, Hemorrhage	1 (100%)					
<b>GENITAL SYSTEM</b>						
Epididymis	(10)	(0)	(0)	(0)	(10)	(10)
Exfoliated Germ Cell						10 (100%)
Hypospermia						10 (100%)
Preputial Gland	(10)	(0)	(0)	(0)	(10)	(10)
Infiltration Cellular, Lymphocyte					1 (10%)	
Inflammation, Suppurative	2 (20%)				4 (40%)	8 (80%)
Inflammation, Chronic Active	3 (30%)					
Duct, Ectasia					2 (20%)	
Prostate	(10)	(0)	(0)	(0)	(10)	(10)
Atrophy						10 (100%)
Seminal Vesicle	(10)	(0)	(0)	(0)	(10)	(10)
Atrophy						10 (100%)

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Testes Seminiferous Tubule, Degeneration	(10)	(0)	(0)	(0)	(10)	(10) 10 (100%)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow Congestion Hypocellularity	(10)	(0)	(0)	(0)	(10)	(10) 1 (10%) 10 (100%)
Lymph Node Lumbar, Hyperplasia, Lymphoid	(0)	(0)	(0)	(0)	(0)	(1) 1 (100%)
Lymph Node, Mandibular Hyperplasia, Lymphoid	(10)	(0)	(0)	(0)	(10)	(10) 2 (20%)
Lymph Node, Mesenteric Hyperplasia, Lymphoid	(10) 2 (20%)	(0)	(0)	(0)	(10) 3 (30%)	(10)
Spleen	(10)	(0)	(0)	(0)	(10)	(10)
Thymus Atrophy Cyst	(10)	(0)	(0)	(0)	(10)	(10) 9 (90%) 1 (10%)
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland Atrophy	(10)	(0)	(0)	(0)	(10)	(10) 9 (90%)
Skin	(10)	(0)	(0)	(0)	(10)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone, Femur	(10)	(0)	(0)	(0)	(10)	(10)
<b>NERVOUS SYSTEM</b>						
Brain, Brain Stem	(10)	(0)	(0)	(0)	(10)	(10)
Brain, Cerebellum	(10)	(0)	(0)	(0)	(10)	(10)

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

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FISCHER 344 RATS-NCTR RATS MALE	Control 0 PPM	USNEA 30 PPM	USNEA 60 PPM	USNEA 120 PPM	USNEA 360 PPM	USNEA 720 PPM
Brain, Cerebrum	(10)	(0)	(0)	(0)	(10)	(10)
Gliosis	1 (10%)					
Mineralization	1 (10%)					
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(0)	(10)	(10)
Congestion						1 (10%)
Hemorrhage	1 (10%)					
Infiltration Cellular, Histiocyte						1 (10%)
Alveolar Epithelium, Hyperplasia					1 (10%)	
Nose	(10)	(0)	(0)	(0)	(10)	(10)
Malformation						1 (10%)
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)
Infiltration Cellular, Lymphocyte					1 (10%)	
<b>URINARY SYSTEM</b>						
Kidney	(10)	(0)	(0)	(0)	(10)	(10)
Casts Protein					2 (20%)	
Hyaline Droplet	1 (10%)					
Hydronephrosis	1 (10%)					2 (20%)
Mineralization	1 (10%)					
Nephropathy	3 (30%)				4 (40%)	5 (50%)
Urinary Bladder	(10)	(0)	(0)	(0)	(10)	(10)
Lumen, Dilatation						1 (10%)

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**FISCHER 344 RATS-NCTR RATS MALE**

**Control 0 PPM**

**USNEA 30 PPM**

**USNEA 60 PPM**

**USNEA 120 PPM**

**USNEA 360 PPM**

**USNEA 720 PPM**

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

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FISCHER 344 RATS-NCTR RATS FEMALE	Control 0 PPM	USNEA 30 PPM	USNEA 60 PPM	USNEA 120 PPM	USNEA 360 PPM	USNEA 720 PPM
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**Disposition Summary**

Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Moribund Sacrifice						8
Natural Death						1
Survivors						
Terminal Sacrifice	10	10	10	10	10	1
Animals Examined Microscopically	10				10	10

**ALIMENTARY SYSTEM**

Esophagus	(10)	(0)	(0)	(0)	(10)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(10)	(9)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(10)	(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)	(10)	(9)
Hyperplasia, Lymphoid	1 (10%)				1 (10%)	
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(10)	(9)
Liver	(10)	(0)	(0)	(0)	(10)	(10)
Hepatocyte, Degeneration						10 (100%)
Pancreas	(10)	(0)	(0)	(0)	(10)	(10)
Vacuolization Cytoplasmic Acinus, Degeneration					1 (10%)	1 (10%)
Salivary Glands	(10)	(0)	(0)	(0)	(10)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(10)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(10)	(10)

**CARDIOVASCULAR SYSTEM**

Blood Vessel	(10)	(0)	(0)	(0)	(10)	(10)
Heart	(10)	(0)	(0)	(0)	(10)	(10)
Cardiomyopathy	3 (30%)				1 (10%)	1 (10%)

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FISCHER 344 RATS-NCTR RATS FEMALE	Control 0 PPM	USNEA 30 PPM	USNEA 60 PPM	USNEA 120 PPM	USNEA 360 PPM	USNEA 720 PPM
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(10)	(0)	(0)	(0)	(10)	(9)
Vacuolization Cytoplasmic						8 (89%)
Adrenal Medulla	(10)	(0)	(0)	(0)	(10)	(8)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(10)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(10)	(10)
Pituitary Gland	(10)	(0)	(0)	(0)	(10)	(9)
Pars Distalis, Cyst					2 (20%)	
Thyroid Gland	(10)	(0)	(0)	(0)	(10)	(9)
Cyst, Squamous					1 (10%)	
Ectopic Thymus	1 (10%)				2 (20%)	1 (11%)
<b>GENERAL BODY SYSTEM</b>						
None						
<b>GENITAL SYSTEM</b>						
Clitoral Gland	(10)	(0)	(0)	(0)	(10)	(10)
Infiltration Cellular, Lymphocyte	1 (10%)					2 (20%)
Inflammation, Suppurative	4 (40%)				1 (10%)	4 (40%)
Inflammation, Chronic Active	2 (20%)					
Duct, Ectasia	1 (10%)					1 (10%)
Ovary	(10)	(0)	(0)	(0)	(10)	(10)
Uterus	(10)	(0)	(0)	(0)	(10)	(9)
Lumen, Dilatation	2 (20%)				3 (30%)	1 (11%)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(0)	(0)	(0)	(10)	(9)
Hypocellularity						8 (89%)
Lymph Node	(0)	(0)	(0)	(0)	(0)	(1)
Lumbar, Hyperplasia, Lymphoid						1 (100%)

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FISCHER 344 RATS-NCTR RATS FEMALE	Control 0 PPM	USNEA 30 PPM	USNEA 60 PPM	USNEA 120 PPM	USNEA 360 PPM	USNEA 720 PPM
Lymph Node, Mandibular Hyperplasia, Lymphoid	(10) 2 (20%)	(0)	(0)	(0)	(10)	(9)
Lymph Node, Mesenteric Hyperplasia, Lymphoid	(10) 4 (40%)	(0)	(0)	(0)	(10) 4 (40%)	(9)
Spleen	(10)	(0)	(0)	(0)	(10)	(10)
Thymus Atrophy	(10)	(0)	(0)	(0)	(10)	(10) 8 (80%)
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(10)	(0)	(0)	(0)	(10)	(9)
Skin	(10)	(0)	(0)	(0)	(10)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone, Femur	(10)	(0)	(0)	(0)	(10)	(10)
<b>NERVOUS SYSTEM</b>						
Brain, Brain Stem	(10)	(0)	(0)	(0)	(10)	(10)
Brain, Cerebellum	(10)	(0)	(0)	(0)	(10)	(10)
Brain, Cerebrum	(10)	(0)	(0)	(0)	(10)	(10)
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(0)	(10)	(10)
Nose	(10)	(0)	(0)	(0)	(10)	(9)
Trachea	(10)	(0)	(0)	(0)	(10)	(10)
<b>SPECIAL SENSES SYSTEM</b>						
Eye	(10)	(0)	(0)	(0)	(10)	(9)
Harderian Gland	(10)	(0)	(0)	(0)	(10)	(10)

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FISCHER 344 RATS-NCTR RATS FEMALE	Control 0 PPM	USNEA 30 PPM	USNEA 60 PPM	USNEA 120 PPM	USNEA 360 PPM	USNEA 720 PPM
Infiltration Cellular, Lymphocyte	2 (20%)					1 (10%)
<hr/>						
URINARY SYSTEM						
Kidney	(10)	(0)	(0)	(0)	(10)	(10)
Casts Protein					5 (50%)	
Infarct						1 (10%)
Mineralization	10 (100%)				10 (100%)	9 (90%)
Urinary Bladder	(10)	(0)	(0)	(0)	(10)	(9)

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

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