

Experiment Number: 20609 - 01

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

Date Report Requested: 12/03/2020

Test Type: 90-DAY

(+)-Usnic Acid

Time Report Requested: 12:50:16

Route: DOSED FEED

CAS Number: 7562-61-0

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

Species/Strain: RATS/F 344/NCTR

Lab: NCTR

**NTP Study Number:** C20609  
**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	Usnic 30 ppm	Usnic 60 ppm	Usnic 120 ppm	Usnic 360 ppm	Usnic 720 ppm
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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)	(10)	(10)	(10)	(10)	(10)
Angiectasis				1 [2.0]		
Eosinophilic Focus					1	
Inflammation, Chronic		1 [1.0]	3 [1.0]	3 [1.0]	8 [1.3]	10 [1.3]
Hepatocyte, Degeneration	1 [1.0]		3 [1.0]	4 [1.3]	10 [1.9]	10 [3.6]
Pancreas	(10)	(0)	(0)	(0)	(0)	(10)
Acinus, Degeneration						1 [2.0]
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)
Cardiomyopathy	9 [1.3]					7 [1.3]

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-NCTR RATS MALE	Control 0 ppm	Usnic 30 ppm	Usnic 60 ppm	Usnic 120 ppm	Usnic 360 ppm	Usnic 720 ppm
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(10)	(0)	(0)	(0)	(0)	(10)
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)
Pars Distalis, Cyst	2 [1.5]					
Pars Intermedia, Cyst						1 [2.0]
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)
Ectopic Thymus	4					1
<b>GENERAL BODY SYSTEM</b>						
None						
<b>GENITAL SYSTEM</b>						
Epididymis	(10)	(0)	(0)	(0)	(0)	(10)
Preputial Gland	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Suppurative	2 [3.0]					6 [2.5]
Inflammation, Chronic Active	1 [2.0]					1 [2.0]
Duct, Dilatation						4 [3.8]
Prostate	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Suppurative	1 [1.0]					
Seminal Vesicle	(10)	(0)	(0)	(0)	(0)	(10)
Testes	(10)	(0)	(0)	(0)	(0)	(10)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Plasma Cell						1 [3.0]
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(10)

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FISCHER 344 RATS-NCTR RATS MALE	Control 0 ppm	Usnic 30 ppm	Usnic 60 ppm	Usnic 120 ppm	Usnic 360 ppm	Usnic 720 ppm
Hyperplasia, Lymphoid	1 [2.0]					2 [2.0]
Infiltration Cellular, Mast Cell	8 [1.8]					7 [2.3]
Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Thymus	(10)	(0)	(0)	(0)	(0)	(10)
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(9)	(0)	(0)	(0)	(0)	(7)
Skin	(10)	(0)	(0)	(0)	(0)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone, Femur	(10)	(0)	(0)	(0)	(0)	(10)
<b>NERVOUS SYSTEM</b>						
Brain, Brain Stem	(10)	(0)	(0)	(0)	(0)	(10)
Brain, Cerebellum	(10)	(0)	(0)	(0)	(0)	(10)
Brain, Cerebrum	(10)	(0)	(0)	(0)	(0)	(10)
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Histiocyte						1 [1.0]
Nose	(10)	(0)	(0)	(0)	(0)	(10)
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)

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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Species/Strain: RATS/F 344/NCTR

Lab: NCTR

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FISCHER 344 RATS-NCTR RATS MALE	Control 0 ppm	Usnic 30 ppm	Usnic 60 ppm	Usnic 120 ppm	Usnic 360 ppm	Usnic 720 ppm
URINARY SYSTEM						
Kidney	(10)	(0)	(0)	(10)	(10)	(10)
Hydronephrosis					2 [1.5]	5 [1.4]
Nephropathy	10 [1.3]			10 [1.0]	10 [1.0]	9 [1.2]
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

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

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FISCHER 344 RATS-NCTR RATS FEMALE	Control 0 ppm	Usnic 30 ppm	Usnic 60 ppm	Usnic 120 ppm	Usnic 360 ppm	Usnic 720 ppm
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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

## 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)	(0)	(10)
Angiectasis						1 [1.0]
Bile Duct, Hyperplasia						1 [1.0]
Pancreas	(10)	(0)	(0)	(0)	(0)	(10)
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)
Cardiomyopathy	7 [1.1]					7 [1.4]

## ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(0)	(10)
Adrenal Medulla	(10)	(0)	(0)	(0)	(0)	(10)

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FISCHER 344 RATS-NCTR RATS FEMALE	Control 0 ppm	Usnic 30 ppm	Usnic 60 ppm	Usnic 120 ppm	Usnic 360 ppm	Usnic 720 ppm
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)
Cyst						1 [1.0]
Ectopic Thymus	1					3
Ultimobranchial Cyst						1 [2.0]

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Clitoral Gland	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Lymphocyte	3 [2.0]					3 [1.3]
Inflammation, Suppurative	1 [2.0]					1 [2.0]
Inflammation, Chronic Active	2 [2.5]					2 [2.0]
Duct, Dilatation						2 [4.0]
Ovary	(10)	(0)	(0)	(0)	(0)	(10)
Uterus	(10)	(0)	(0)	(0)	(0)	(10)
Lumen, Dilatation	3 [3.0]					1 [4.0]

## HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(10)
Hyperplasia, Lymphoid	3 [1.7]					1 [2.0]
Infiltration Cellular, Mast Cell	9 [1.8]					10 [3.0]
Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Thymus	(10)	(0)	(0)	(0)	(0)	(10)

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<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Skin	(10)	(0)	(0)	(0)	(0)	(10)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone, Femur	(10)	(0)	(0)	(0)	(0)	(10)
<b>NERVOUS SYSTEM</b>						
Brain, Brain Stem	(10)	(0)	(0)	(0)	(0)	(10)
Brain, Cerebellum	(10)	(0)	(0)	(0)	(0)	(10)
Brain, Cerebrum	(10)	(0)	(0)	(0)	(0)	(10)
<b>RESPIRATORY SYSTEM</b>						
Lung	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Histiocyte	1 [1.0]					1 [1.0]
Nose	(10)	(0)	(0)	(0)	(0)	(10)
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)
Infiltration Cellular, Lymphocyte	3 [1.3]					
<b>URINARY SYSTEM</b>						
Kidney	(10)	(0)	(0)	(0)	(0)	(10)
Cyst	2 [3.5]					1 [4.0]
Mineralization	10 [3.0]					10 [3.4]

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

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FISCHER 344 RATS-NCTR RATS FEMALE	Control 0 ppm	Usnic 30 ppm	Usnic 60 ppm	Usnic 120 ppm	Usnic 360 ppm	Usnic 720 ppm
Nephropathy	2 [1.0]					10 [1.2]
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

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

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)